an E·ON company

Ms. Stephanie Stumbo
Public Service Commission
211 Sower Boulevard
P. O. Box 615
Frankfort, Kentucky 40601

RECEIVED
APR 01 2008
PUBLIC SERVICE COMMISSION

Louisville Gas and Electric Company
State Regulation and Rates
220 West Main Street
PO Box 32010
Louisville, Kentucky 40232
www.eon-us.com

Martin J. Reinert
Senior Regulatory Analyst
T 502-627-4173
F 502-627-3213
marty.reinert@eon-us.com

April 1, 2008

RE: Case No. 2000-00278 **Gas Meter Performance Control Plan**
Case No. 2002-00262 **Residential Service Regulator Inspection and Replacement Program**

Dear Ms. Stumbo:

Pursuant to the above mentioned cases, Louisville Gas and Electric ("LG&E") hereby files 5 copies of the annual report.

If you have any questions please do not hesitate to contact me.

Sincerely,

Marty J. Reinert

Marty J. Reinert

Enclosure

Louisville Gas & Electric

Gas Meter Performance Control Plan Year 2007

RECEIVED
APR 01 2008
PUBLIC SERVICE COMMISSION

Year 2007 Gas Meter Sampling Plan Results

I. Introduction

The 2007 LG&E Gas Meter Performance Control Program required 7,924 gas meters within 143 control groups to be tested and their accuracy performance documented.

Any sampled meter which proof tested beyond +/- 2% (fast or slow) was considered to be a failed meter. The control groups sampled during 2007 performed extremely well. Two (2) small control groups of the Rockwell 250 model failed the sampling criteria. Combined, the two failed control groups total 1,001 gas meters and are scheduled to be removed by July 1, 2009. This report summarizes the results of the 2007 LG&E Gas Meter Sampling Program.

II. Meter Performance

The meter groups were separated into three capacity classifications. Meters with capacities up to and including 500 CFH, which primarily represent residential meters, represented the largest group with eighty-nine (89) control groups and 6,861 meters. Meters with capacities that range from 501 CFH to 1500 CFH (Commercial), represented the second largest group with forty-six (46) control groups and 871 meters. Meters with capacities 1501 CFH (Industrial) and above comprised the balance of the sampling with eight (8) control groups and 192 meters.

A summary of each control group, along with statistical analysis data, is shown in appendix A. The definitions of selected statistical categories are included.

Of the 143 control groups sampled, 141 passed the sampling criteria in 2007. A total of eleven (11) control groups had their remaining population removed through the sampling program in 2007.

A. Residential Class - Up to and including 500 cfh

1. Strong Performing Groups - Reduced Sampling

The strongest performing meter groups in this capacity continue to be the American AL175, AL250, AC250, and the AL425. Of the 1,454 meters in the twenty-two (22) control groups of AL175 meters, only twenty (20) individual meters failed the sampling criteria, a 1.38 percent failure rate. The eighteen (18) AC250 control groups had a total of twelve (12) failures out of the 1,206 meters tested, a 1.00 percent failure rate. The ten (10) AL425 control groups totaling 290 meters experienced six (6) failures, a 2.07 percent failure rate.

The American Meter Company AL175 and AC250 residential models were the primary types of gas meters LG&E either purchased new or had remanufactured and placed back into the system, which continues to improve the overall accuracy of the installed meter population.

The one (1) American AL250 control group totaling thirty-two (32) meters experienced zero (0) failures. Although this model performs well, it is being phased out as the meters are removed due to the small number of this model installed.

Test results were analyzed for the below groups to verify each model did not exceed the Limit Numbers For Reduced Inspection, Table VIII, under the American Standard – Sampling Procedures and Tables For Inspection By Attributes guidelines.

Model 033 – American AL175 CFH
Last 10 Control Group Years Tested = 740 Meters Tested
Limit Number For Reduced Testing - 25
Actual Deviate Meters – 9

Model 33A – American AL175 CFH
Last 10 Control Group Years Tested = 506 Meters Tested
Limit Number For Reduced Testing - 25
Actual Deviate Meters – 4

Model 015 – American AL425CFH
Last 10 Control Group Years Tested = 290 Meters Tested
Limit Number For Reduced Testing – 8
Actual Deviate Meters – 6

Model 078 – American AC250 CFH
Last 10 Control Group Years Tested = 644 Meters Tested 692
Limit Number For Reduced Testing - 25
Actual Deviate Meters – 4

The below models will remain on Reduced Sampling in year 2008.
American Model AL175 Model Code 033
American Model AL175 Model Code 33A
American Model AL425 Model Code 015
American Model AC250 Model Code 078

2. Weak Performing Residential Group

The older models of Rockwell residential class 250 CFH meters continue to be the poorest performing control groups. Of the four (4) Rockwell R250 Code 057 control groups consisting of 242 meters sampled this year, thirty-four (34) of the individual meters failed the sampling criteria for a 14.05 percent failure rate. Two of the 057 control groups, years 1988 and 1989, failed the sampling criteria and have been scheduled for removal by July 1, 2009. LG&E intends to make a concerted effort to remove the failed 057 meters well ahead of the removal deadline.

Rockwell R250 gas meters removed from the system are being replaced by the better performing model of the American AC250 gas meter.

The Rockwell 175 CFH meters continue to be one of the weaker performing control groups. Of the seventeen (17) Rockwell R175 control groups consisting of 2,830 meters sampled this year, ninety (90) of the individual meters failed the sampling criteria for a 3.18 percent failure rate.

The Actaris 250 Metris, size code 018, gas meter performed below expectations, becoming one of the weaker performing control groups. The three (3) control groups tested this year experienced fifteen (15) failures out of 312 meters tested, a 4.81 percent failure rate. LG&E does not recycle the Actaris Metris 250. When it is removed from service it is currently being replaced with an American AC250 gas meter.

B. Commercial Class - 501 cfh up to and including 1500 cfh

Forty-six (46) control groups in the Commercial Meter Class were tested in 2007 and there were no control group failures.

The strongest performing meters in this class was the American AL1400 meter which experienced zero (0) individual meter failures within the eight (8) control groups tested and the Rockwell #3 Emco which also experienced zero (0) individual meter failures within the seven (7) control groups tested.

Demonstrating acceptable performance were the Rockwell R750 control groups with six (6) meter failures out of 256 meters tested, and the American AL1000 control groups which had eleven (11) meter failures out of 230 meters tested.

Beginning in the 2003 test year, all Commercial Class Control Groups, regardless of whether they meet the Limit Numbers For Reduced Inspection, Table VIII, under the American Standard – Sampling Procedures and Tables For Inspection By Attributes guidelines, have been placed on the Single Sampling Plan For Normal Inspection due to the small volume of meters in the Commercial Class Control Groups.

C. Industrial Class - Over 1500 cfh

The eight (8) control groups in this capacity range performed extremely well and no groups failed the sampling criteria. Two of the control groups were exhausted by the 2007 Sampling Program. The six (6) control groups not exhausted in the 2007 Sample Program, had only two (2) individual meters exceed the sampling accuracy criteria.

Beginning in 2003 test year, all Industrial Class control groups, regardless of whether they meet the Limit Numbers For Reduced Inspection, Table VIII, under the American Standard – Sampling Procedures and Tables For Inspection By Attributes guidelines, have been placed on the Single Sampling Plan For Normal Inspection due to the small volume of meters in the Industrial Class control groups.

D. 2007 Failed Group Summary

Two (2) control groups of the Rockwell 250 model failed the 2007 sampling criteria.

Table 1: 2007 Failed Meter Groups To Be Removed By July 1st, 2009

Manufacturer	Model	Type	Installed Year	Beginning Population	Remaining Population
Rockwell	R 250	057	1988	638	534
Rockwell	R250	057	1989	568	467

III. Safety

As part of the LG&E Meter Sampling change-out activities, safety inspections were performed and "red-tags" were issued when deficiencies were found which resulted in a customers appliance being left off or the customers gas service partially or fully suspended until the deficiency was corrected by the customer. The results of these safety inspections directly associated with LG&E's Meter Sampling Program is summarized in Table 2 below.

Table 2: Year 2007 Safety Inspection Results

Type of Problem/Appliance	# of "Red Tags"
Water Heater Not Venting Correctly/Leaks/Other	9
Houseline Leak –left off at meter	8
Obsolete Appliance flexible hook-up lines, etc;)	9
Furnace Problem (internal leak, various Problems)	10
Water Heater Leak On Gas Line	1
Leak On Line To Garage	1
Clothes Dryer Leaking	3
Cook Stove Problems	4
Gas Grill – Gas Line Leaking	1
Gas Fireplace Valve Leaking	1
Flex line Through Wall Of Furnace	39

Additionally, 2,558 Customer Surveillance Notices were issued to customers to correct outside deficiencies on their meter loop or exposed outside gas piping.

Table 3: Year 2007 Customer Surveillance Notices Issued

Type Of Customer Notice Issued	Number Issued
Corrosion / Rust On Outside Meter Loop & Associated Piping	2,014
Tree / Shrubbery Growing Inside / Against Meter Loop	53
Gas Piping Not Properly Supported	330
Meter Loop Too Low - In Contact With Soil / Pavement	34
Meter Not Protected From Vehicular Damage	76
Customer Built Over Service Line / Around Meter	2
Service riser piping in contact with pavement	3
Other	46

IV. Year 2007 Residential Meter Sampling Savings

Table 4, which highlights the estimated savings between a periodic change schedule and the LG&E Gas Meter Performance Control Program for the purchase of new/remanufactured residential class gas meters, is included on the next page.

Table 4: **2007 Residential Class Meter Sampling Program Estimated Savings**

Metering Savings: Residential Gas Meters	
Periodic Program Costs (10-year Program):	
Number of Meters under Periodic Program [1]	30,691
Unit Remanufacture Cost – Average Blended Cost	$ 26.31
Residential Meter Costs Under Periodic Program	$807,480
Sampling Program Costs: [2]	
Number of Meters under Sampling Program	6,861
Number of poor performing meters scrapped	1,070
Number of Meters for Remanufacture	5,791
Remanufactured Meters	5,791
Average Unit Remanufacture Cost – All Models	$26.31
Remanufactured Meter Costs	$152,361
Replacement Meters (including FST Replacements)	1,713
Average Replacement Meter Cost (per unit)	$ 51.90
Replacement Meter Costs	$88,904
Total Meter Costs Under 2007 Program	$241,265
Meter Cost Savings From 2007 Program	$566,215

Administrative and Development Costs:	
Programming Development Costs: [3]	
Number of Hours in Programming	40
Pay Rate with Overheads	$ 67.28
Development Costs	$ 2,691
Additional Administrative Costs (Supervisory): [4]	
Total Hours (based on 10 hrs/week)	520
Pay Rate with Overheads	$ 49.13
Additional Admin. Costs	$25,547
Total Administrative & Development Costs	$28,238

Net 2007 Residential Meter Cost Savings	$537,977

[1] Residential meters on line end of year 1997
[2] Includes 2007 sample meters and any failed meter groups.
[3] Development time for revisions to an Access Database.
[4] Estimated Hours Spent Specific On Administration & Reporting Functions

APPENDIX A

Control Group Data/Analysis

Control Group Test Data Range

Frequency Histograms (Examples)

Statistical Definitions

MEDIAN

The median is the number in the middle of a set of numbers; that is, half the numbers have values that are greater than the median and half have values that are less.

STANDARD DEVIATION

The standard deviation is a measure of how widely values are dispersed from the average value (the mean).

SKEWNESS

Skewness characterizes the degree of asymmetry of a distribution around its mean. Positive skewness indicates a distribution with an asymmetric tail extending towards more positive values. Negative skewness indicates a distribution with an asymmetric tail extending towards more negative values.

CONFIDENCE

The confidence interval is a range on either side of a sample mean. For example, if you order a product through the mail, you can determine, with a particular level of confidence, the earliest and latest the product should arrive.

American AL425
425 CFH
Code: 015

Test Year 2007

	Control Group-Installed Year									
	1993	1994	1995	1996	1997	1998	1999	2001	2003	2005
Sample Plan	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced
Sample Size	2*	32	32	32	32	32	32	32	32	32
Original Population	13	100	221	603	506	678	538	645	402	596
# of Slow Failures	0	2	1	2	0	0	0	0	0	0
# of Fast Failures	0	0	0	0	1	0	0	0	0	0
Total Failures:	0	2	1	2	1	0	0	0	0	0
Accept Level	0	5	5	5	5	5	5	5	5	5
Reject Level	1	8	8	8	8	8	8	8	8	8
Pass/ Fail?	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
If Failed - Remove By:	Exhaust									
Statistical Data:										
Mean (Average Proof)	-0.275	-0.371875	-0.485938	-0.890625	-0.470313	-0.628125	-0.521875	-0.429688	-0.640625	-0.498438
Median	-0.275	-0.225	-0.5	-0.85	-0.625	-0.725	-0.525	-0.375	-0.55	-0.5
Standard Deviation	1.732412	0.728115	0.805048	0.767845	0.791982	0.613417	0.673213	0.590497	0.402099	0.427386
Sample Variance	3.00125	0.530151	0.648102	0.589587	0.627235	0.37628	0.453216	0.348687	0.161683	0.182659
Skewness	NA	-1.291479	0.229363	-1.150711	1.387525	0.665153	0.06542	-0.216135	-0.264759	0.63099
Minimum	-1.5	-2.5	-2.25	-3.6	-1.9	-1.9	-1.75	-1.65	-1.65	-1.1
Maximum	0.95	0.8	1.5	1.05	2.35	1.25	0.95	0.6	0.2	0.65
Count	2	32	32	32	32	32	32	32	32	32
Confidence Level(95.0%)	15.5651	0.262513	0.290251	0.276838	0.28554	0.22116	0.242719	0.212897	0.144972	0.154089

* Population less than required 32 minimum sample size - all meters to be changed - Single Sampling Plan For Normal Inspection used to obtain sample size to determine if control passed or failed.

Year 2007

Meter Code 015 American AL 425

Code & Year:	1993
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	0
-.4 to .4	0
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	2

Code & Year:	1994
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	2
-.2 to -1.2	1
-1.2 to -.4	7
-.4 to .4	19
.4 to 1.2	3
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year:	1995
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	3
-1.2 to -.4	15
-.4 to .4	9
.4 to 1.2	4
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year:	1996
Data Range	Number
LT -3.6	0
-3.6 to -2.8	1
-2.8 to -.2	1
-.2 to -1.2	5
-1.2 to -.4	17
-.4 to .4	7
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year:	1997
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	18
-.4 to .4	9
.4 to 1.2	2
1.2 to 2.0	0
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year:	1998
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	4
-1.2 to -.4	17
-.4 to .4	10
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year:	1999
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	6
-1.2 to -.4	11
-.4 to .4	13
.4 to 1.2	2
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year:	2001
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	4
-1.2 to -.4	11
-.4 to .4	15
.4 to 1.2	2
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year:	2003
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	3
-1.2 to -.4	21
-.4 to .4	8
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year:	2005
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	20
-.4 to .4	11
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

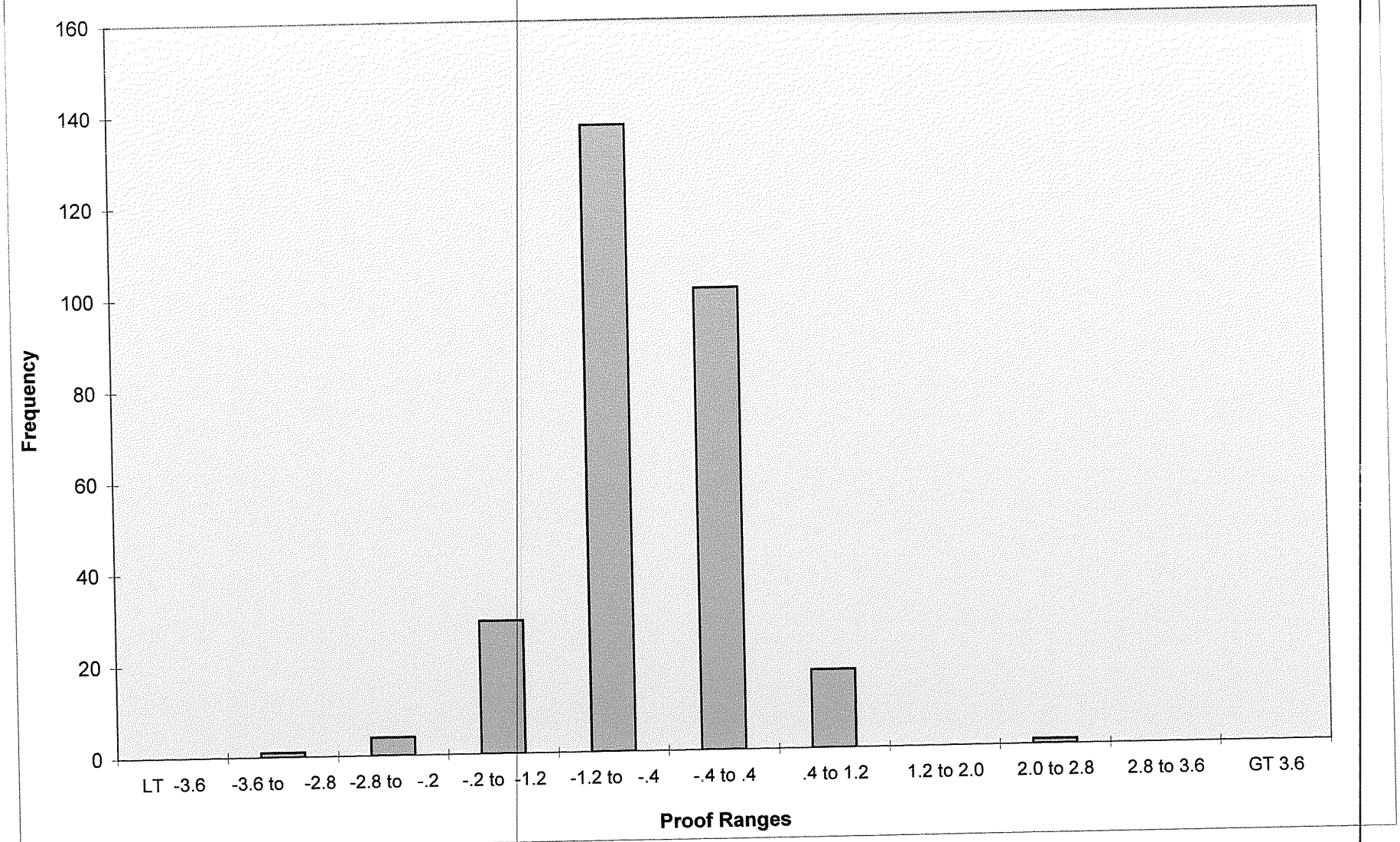
Year 2007

Meter Code 015 American AL 425

Code & Year:	Total
Data Range	Number
LT -3.6	0
-3.6 to -2.8	1
-2.8 to -.2	4
-.2 to -1.2	29
-1.2 to -.4	137
-.4 to .4	101
.4 to 1.2	17
1.2 to 2.0	0
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	0
Total	290

American AL425 Distribution Profile - 015

(1993, 1994, 1995, 1996, 1997, 1998, 1999, 2001, 2003, 2005)



Metris 250
250 CFH
Code: 018

Test Year 2007

	Control Group-Installed Year								
	2001	2003	2005						
Sample Plan	Single	Single	Single						
Sample Size	80	200	32						
Original Population	905	5492	55						
# of Slow Failures	0	13	1						
# of Fast Failures	0	1	0						
Total Failures:	0	14	1						
Accept Level	10	21	5						
Reject Level	11	22	6						
Pass / Fail?	Pass	Pass	Pass						
If Failed - Remove By:									
Statistical Data:									
Mean (Average Proof)	-0.22375	-0.857	-0.9						
Median	-0.15	-0.9	-0.75						
Standard Deviation	0.603155	0.919198	0.594871						
Sample Variance	0.363796	0.844926	0.353871						
Skewness	0.243638	0.28154	-0.30783						
Minimum	-1.4	-3.5	-2.2						
Maximum	1.6	3.45	0.15						
Count	80	200	32						
Confidence Level(95.0%)	0.134226	0.128172	0.214474						

Test Year 2007 Meter Code 018 Metris 250

Code & Year:	2001
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	28
-.4 to .4	39
.4 to 1.2	10
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

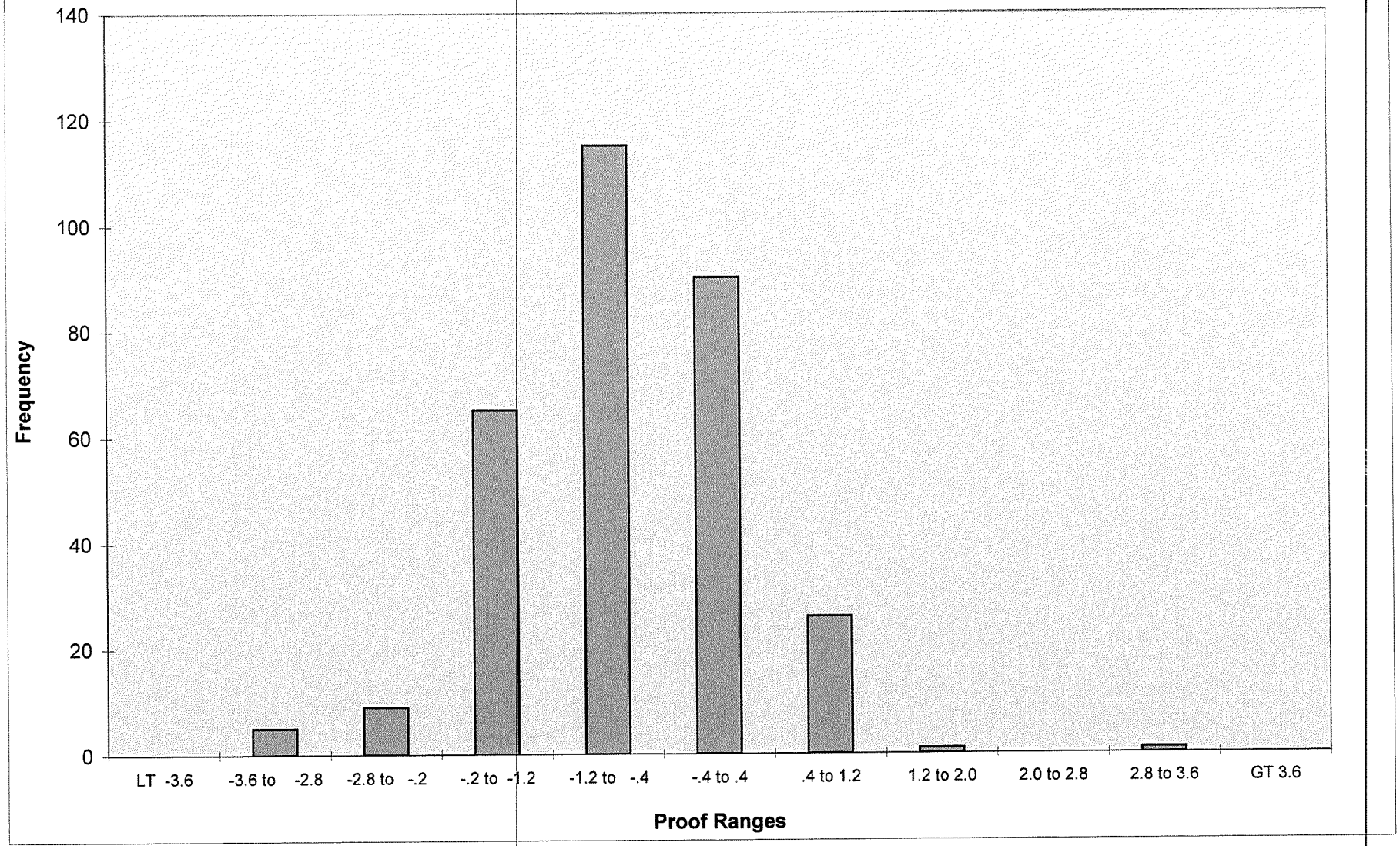
Code & Year:	2003
Data Range	Number
LT -3.6	0
-3.6 to -2.8	5
-2.8 to -.2	8
-.2 to -1.2	54
-1.2 to -.4	71
-.4 to .4	45
.4 to 1.2	16
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	1
GT 3.6	0
Total	200

Code & Year:	2005
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	9
-1.2 to -.4	16
-.4 to .4	6
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year:	Totals
Data Range	Number
LT -3.6	0
-3.6 to -2.8	5
-2.8 to -.2	9
-.2 to -1.2	65
-1.2 to -.4	115
-.4 to .4	90
.4 to 1.2	26
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	1
GT 3.6	0
Total	312

Metris 250 Distribution Profile - 018

(2001, 2003, 2005)



Metris 250 TC	Year 2007								
175 CFH	Control Group-Installed Year								
Code: 18T	2002								
Sample Plan	Single								
Sample Size	80								
Original Population	801								
# of Slow Failures	4								
# of Fast Failures	0								
Total Failures:	4								
Accept Level	10								
Reject Level	11								
Pass / Fail?	Pass								
If Failed - Remove By:									
Statistical Data:									
Mean (Average Proof)	-0.7375								
Median	-0.65								
Standard Deviation	0.839209								
Sample Variance	0.704272								
Skewness	-1.112437								
Minimum	-4.7								
Maximum	1.55								
Count	80								
Confidence Level(95.0%)	0.186757								

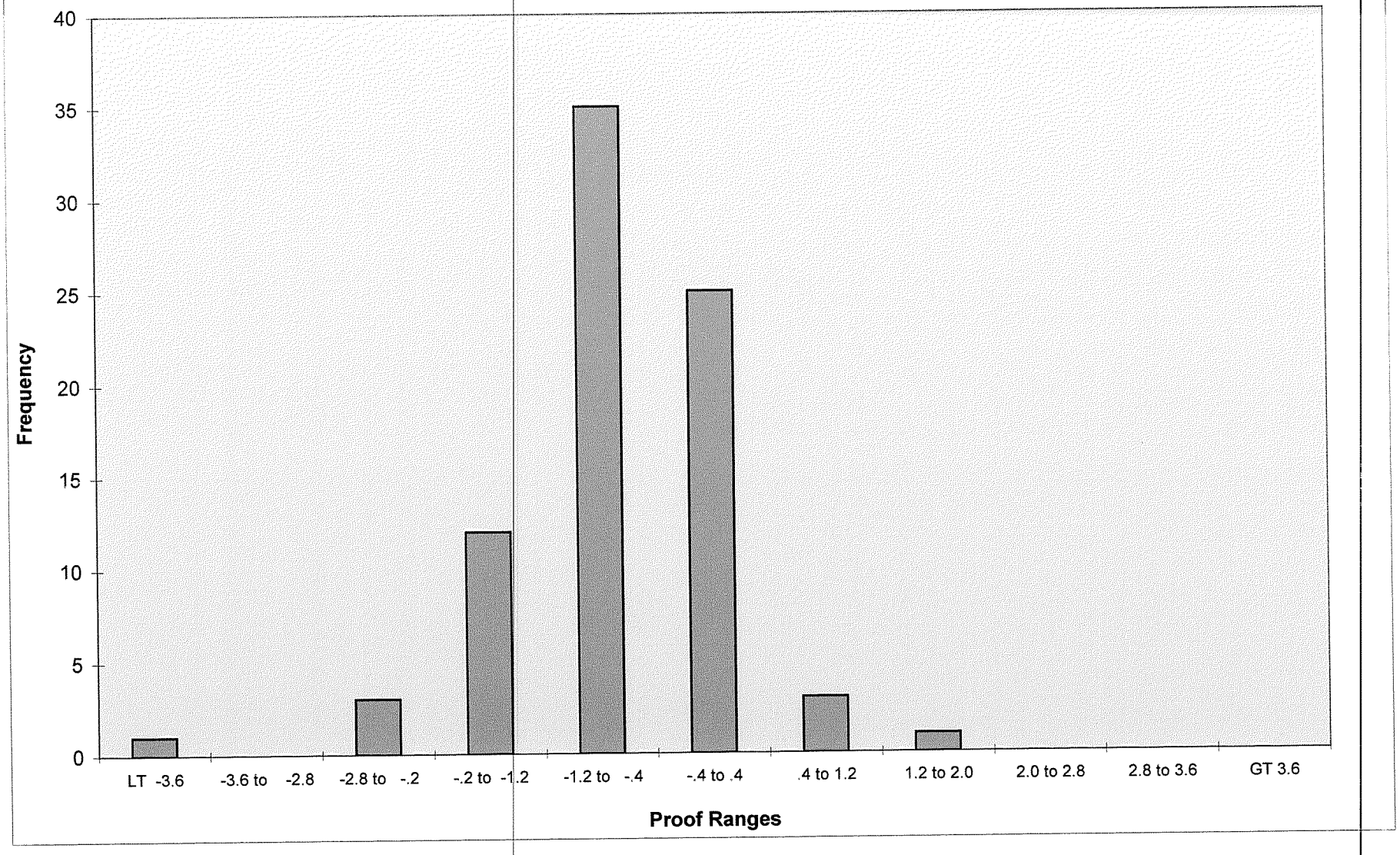
Year 2007 Meter Code 18T Metris 250 TC

Code & Year:	2002
Data Range	Number
LT -3.6	1
-3.6 to -2.8	0
-2.8 to -.2	3
-.2 to -1.2	12
-1.2 to -.4	35
-.4 to .4	25
.4 to 1.2	3
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year:	Totals
Data Range	Number
LT -3.6	1
-3.6 to -2.8	0
-2.8 to -.2	3
-.2 to -1.2	12
-1.2 to -.4	35
-.4 to .4	25
.4 to 1.2	3
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Metris 250TC Distribution Profile - 18T

(2002)



Actaris 400A
400 CFH
Code: 022

Test Year 2007

	Control Group-Installed Year								
	2003	2005							
Single or Double (S or D)	Single	Single							
Sample Size	8*	1*							
Original Population	26	1							
# of Slow Failures	0	0							
# of Fast Failures	0	0							
Total Failures:	0	0							
Accept Level	1	0							
Reject Level	2	1							
Pass / Fail?	Pass	Pass							
If Failed - Remove By:	Exhaust	Exhaust							
Statistical Data:									
Mean (Average Proof)	-0.025	0.15							
Median	0.025	0.15							
Standard Deviation	0.205287	NA							
Sample Variance	0.042143	NA							
Skewness	0.495379	NA							
Minimum	-0.3	0.15							
Maximum	0.35	0.15							
Count	8	1							
Confidence Level(95.0%)	0.171624	NA							

* Population less than required 32 minimum sample size - all meters to be changed - Single Sampling Plan For Normal Inspection used to obtain sample size to determine if control passed or failed.

Year 2007 Meter Code 022 Actaris 400A

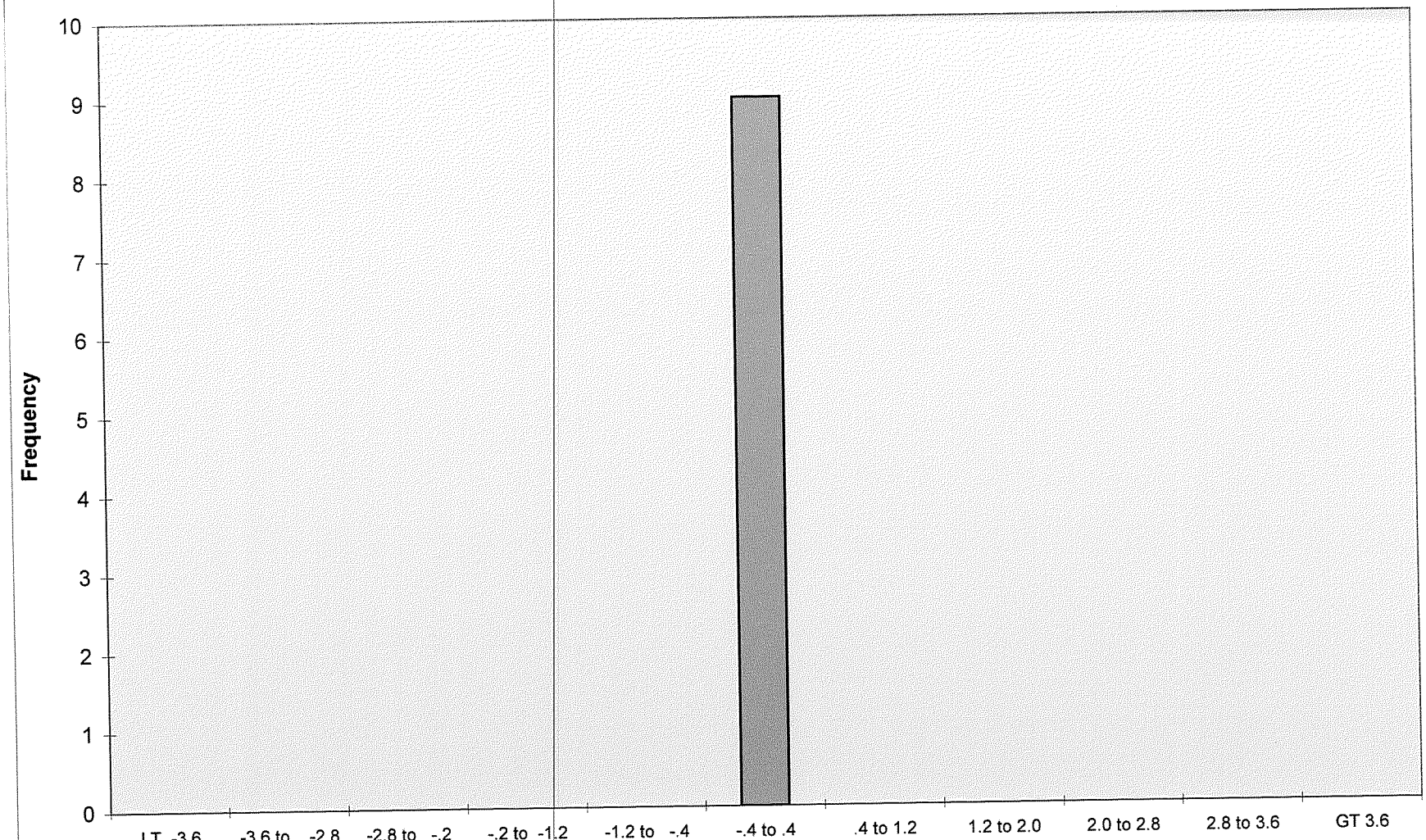
Code & Year:	2003
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	0
-.4 to .4	8
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	8

Code & Year:	2005
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	0
-.4 to .4	1
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	1

Code & Year:	Total
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	0
-.4 to .4	9
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	9

Actaris 400A Distribution Profile - 022

(2003, 2005)



Rockwell R175	Year 2007																
175 CFH	*Control Group-Installed Year*																
Code: 024	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2001	2003	2005
Sample Plan	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single
Sample Size	200	200	125	200	200	200	200	200	200	200	125	80	125	125	125	125	200
Original Population	4664	4440	3080	4587	3845	4441	4948	5196	3869	3680	1788	901	1433	2269	1494	2609	3834
# of Slow Failures	2	5	3	4	3	1	10	16	6	1	3	2	1	1	0	1	3
# of Fast Failures	4	2	0	6	2	6	2	0	3	1	1	0	0	0	0	1	0
Total Failures:	6	7	3	10	5	7	12	16	9	2	4	2	1	1	0	2	3
Accept Level	21	21	14	21	21	21	21	21	21	21	14	10	14	14	14	14	21
Reject Level	22	22	15	22	22	22	22	22	22	22	15	11	15	15	15	15	22
Pass / Fail?	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
If Failed - Remove By:																	
Statistical Data:																	
Mean (Average Proof)	0.24925	-0.029	-0.032	0.0765	0.0495	0.34775	-0.203	-0.32475	0.01725	-0.104	-0.3508	-0.22125	-0.2192	-0.196	-0.1408	-0.0956	-0.13275
Median	0.25	-0.05	0.05	0.1	0.1	0.35	-0.1	-0.025	0.05	-0.05	-0.35	-0.175	-0.2	-0.1	-0.15	-0.05	-0.05
Standard Deviation	0.97019	0.935553	0.871373	1.097106	0.855957	0.929923	1.131733	1.144563	0.965206	0.786081	0.865629	0.812551	0.736403	0.736289	0.620724	0.781103	0.765766
Sample Variance	0.941268	0.87526	0.75929	1.203641	0.732663	0.864756	1.28082	1.310025	0.931623	0.617924	0.749314	0.660239	0.54229	0.542121	0.385298	0.610122	0.586397
Skewness	-0.931228	-0.340165	-0.605698	0.423119	0.002023	0.019401	-1.142619	-1.168118	-1.019064	0.451432	-0.230298	-0.569479	0.104674	-0.485876	0.089992	-0.017022	-1.727621
Minimum	-5.3	-3.15	-3.05	-4.9	-2.4	-2.2	-6.15	-4.7	-4.5	-2.25	-3.85	-2.8	-2.6	-2.65	-1.6	-2.95	-4.45
Maximum	2.45	2.75	1.85	5.95	3.15	3.05	3.05	1.95	3.05	3.75	2.65	1.35	1.9	1.35	1.75	3.1	1.5
Count	200	200	125	200	200	200	200	200	200	200	125	80	125	125	125	125	200
Confidence Level(95.0%)	0.135282	0.130452	0.154261	0.152979	0.119353	0.129667	0.157807	0.159596	0.134587	0.10961	0.153244	0.180824	0.130367	0.130347	0.109888	0.13828	0.106777

Year 2007 Meter Code 024 Rockwell R175

Code & Year:	1986
Data Range	Number
LT -3.6	1
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	8
-1.2 to -.4	32
-.4 to .4	80
.4 to 1.2	46
1.2 to 2.0	28
2.0 to 2.8	4
2.8 to 3.6	0
GT 3.6	0
Total	200

Code & Year:	1987
Data Range	Number
LT -3.6	0
-3.6 to -2.8	3
-2.8 to -.2	2
-.2 to -1.2	15
-1.2 to -.4	36
-.4 to .4	83
.4 to 1.2	46
1.2 to 2.0	13
2.0 to 2.8	2
2.8 to 3.6	0
GT 3.6	0
Total	200

Code & Year:	1988
Data Range	Number
LT -3.6	0
-3.6 to -2.8	1
-2.8 to -.2	2
-.2 to -1.2	9
-1.2 to -.4	19
-.4 to .4	56
.4 to 1.2	31
1.2 to 2.0	7
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	125

Code & Year:	1989
Data Range	Number
LT -3.6	1
-3.6 to -2.8	1
-2.8 to -.2	2
-.2 to -1.2	12
-1.2 to -.4	43
-.4 to .4	73
.4 to 1.2	49
1.2 to 2.0	13
2.0 to 2.8	4
2.8 to 3.6	0
GT 3.6	2
Total	200

Code & Year:	1990
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	3
-.2 to -1.2	10
-1.2 to -.4	43
-.4 to .4	76
.4 to 1.2	55
1.2 to 2.0	11
2.0 to 2.8	1
2.8 to 3.6	1
GT 3.6	0
Total	200

Code & Year:	1991
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	9
-1.2 to -.4	28
-.4 to .4	74
.4 to 1.2	57
1.2 to 2.0	25
2.0 to 2.8	4
2.8 to 3.6	2
GT 3.6	0
Total	200

Code & Year:	1992
Data Range	Number
LT -3.6	2
-3.6 to -2.8	4
-2.8 to -.2	4
-.2 to -1.2	17
-1.2 to -.4	40
-.4 to .4	83
.4 to 1.2	39
1.2 to 2.0	9
2.0 to 2.8	1
2.8 to 3.6	1
GT 3.6	0
Total	200

Code & Year:	1993
Data Range	Number
LT -3.6	3
-3.6 to -2.8	4
-2.8 to -.2	9
-.2 to -1.2	22
-1.2 to -.4	34
-.4 to .4	75
.4 to 1.2	49
1.2 to 2.0	4
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	200

Code & Year:	1994
Data Range	Number
LT -3.6	2
-3.6 to -2.8	1
-2.8 to -.2	3
-.2 to -1.2	9
-1.2 to -.4	34
-.4 to .4	88
.4 to 1.2	49
1.2 to 2.0	11
2.0 to 2.8	2
2.8 to 3.6	1
GT 3.6	0
Total	200

Code & Year:	1995
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	13
-1.2 to -.4	53
-.4 to .4	90
.4 to 1.2	37
1.2 to 2.0	5
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	1
Total	200

Year 2007

Meter Code 024 Rockwell R175

Code & Year:	1996
Data Range	Number
LT -3.6	1
-3.6 to -2.8	2
-2.8 to -.2	0
-.2 to -1.2	13
-1.2 to -.4	38
-.4 to .4	54
.4 to 1.2	12
1.2 to 2.0	4
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	0
Total	125

Code & Year:	1997
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	2
-.2 to -1.2	6
-1.2 to -.4	23
-.4 to .4	32
.4 to 1.2	15
1.2 to 2.0	2
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year:	1998
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	10
-1.2 to -.4	34
-.4 to .4	66
.4 to 1.2	8
1.2 to 2.0	6
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	125

Code & Year:	1999
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	7
-1.2 to -.4	34
-.4 to .4	58
.4 to 1.2	23
1.2 to 2.0	2
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	125

Code & Year:	2001
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	7
-1.2 to -.4	33
-.4 to .4	61
.4 to 1.2	22
1.2 to 2.0	2
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	125

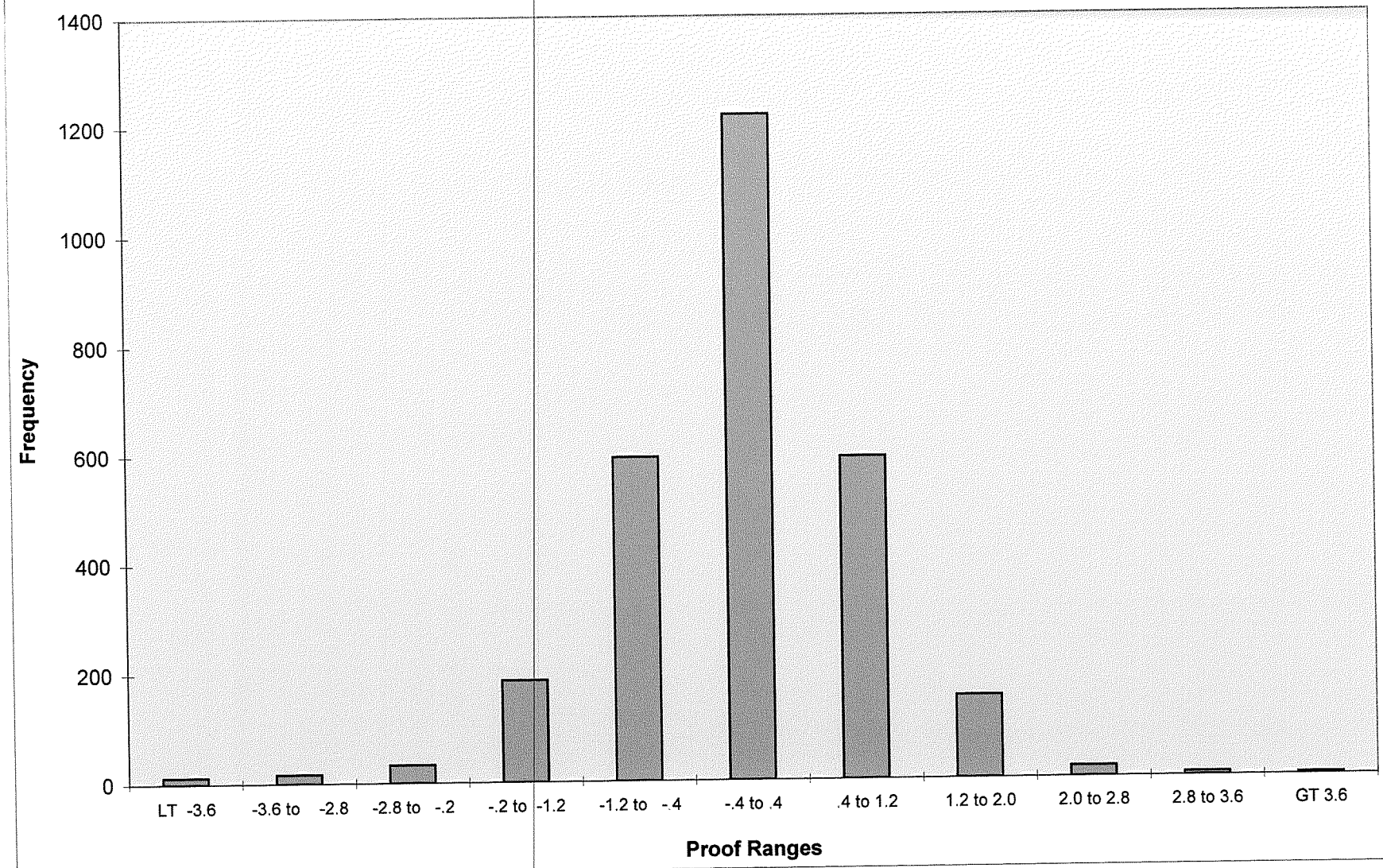
Code & Year:	2003
Data Range	Number
LT -3.6	0
-3.6 to -2.8	1
-2.8 to -.2	0
-.2 to -1.2	10
-1.2 to -.4	24
-.4 to .4	65
.4 to 1.2	20
1.2 to 2.0	4
2.0 to 2.8	0
2.8 to 3.6	1
GT 3.6	0
Total	125

Code & Year:	2005
Data Range	Number
LT -3.6	2
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	9
-1.2 to -.4	45
-.4 to .4	105
.4 to 1.2	33
1.2 to 2.0	5
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	200

Code & Year:	Totals
Data Range	Number
LT -3.6	12
-3.6 to -2.8	17
-2.8 to -.2	33
-.2 to -1.2	186
-1.2 to -.4	593
-.4 to .4	1219
.4 to 1.2	591
1.2 to 2.0	151
2.0 to 2.8	19
2.8 to 3.6	6
GT 3.6	3
Total	2830

Rockwell R175 Distribution Profile - 033

(1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2001, 2003, 2005)



American AL 250
250 CFH
Code: 030

Year 2007

	Control Group-Installed Year							
	1992							
Sampling Plan	Single							
Sample Size	32							
Original Population	165							
# of Slow Failures	0							
# of Fast Failures	0							
Total Failures:	0							
Accept Level	5							
Reject Level	6							
Pass/ Fail?	**Pass**							
If Failed - Remove By:								
Statistical Data:								
Mean (Average Proof)	-0.404688							
Median	-0.325							
Standard Deviation	0.498119							
Sample Variance	0.248122							
Skewness	-0.890795							
Minimum	-1.9							
Maximum	0.45							
Count	32							
Confidence Level(95.0%)	0.179591							

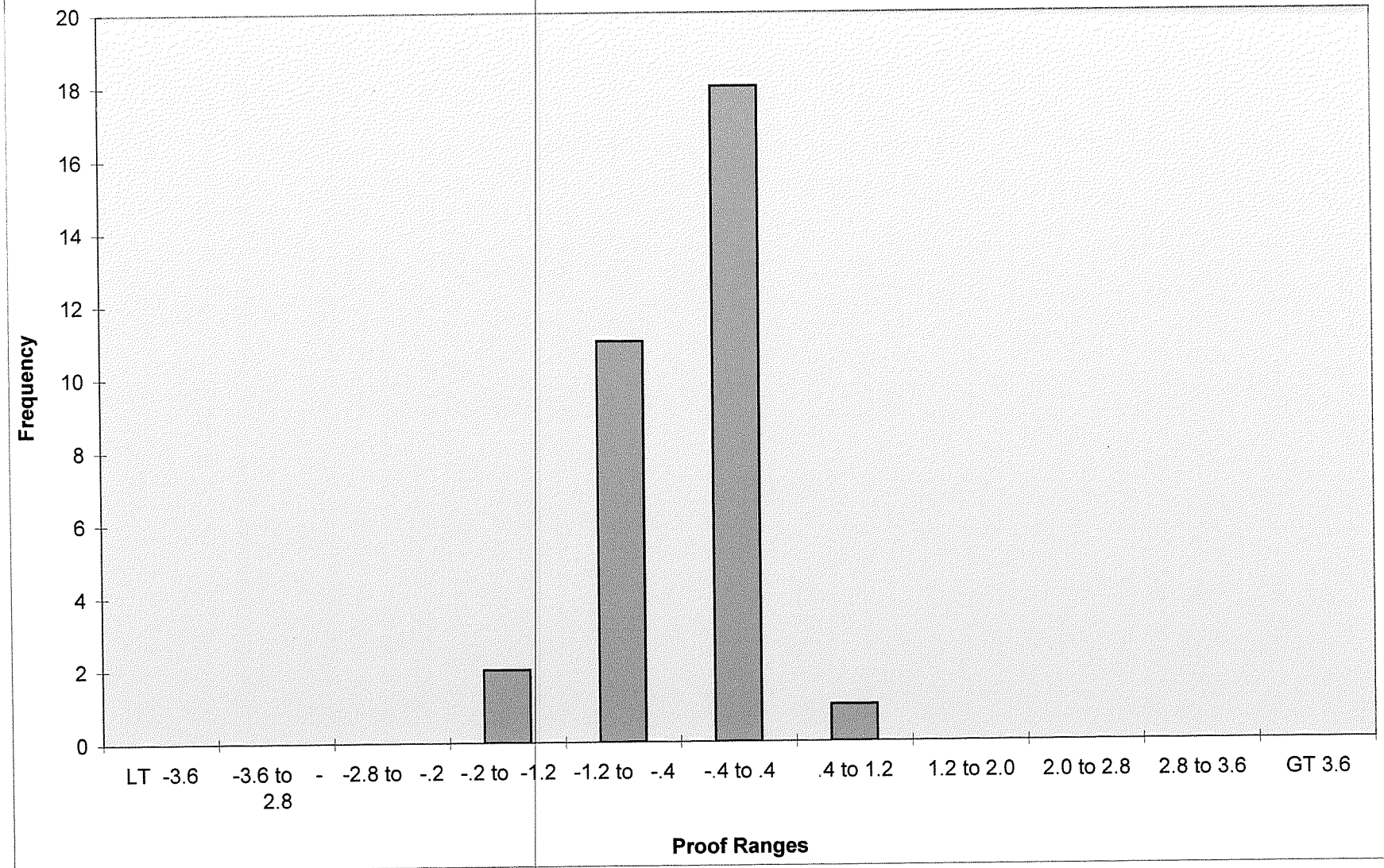
Year 2007 Meter Code 030 American AL250

Code & Year:	1992
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	11
-.4 to .4	18
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year:	Total
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	11
-.4 to .4	18
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

American AL250 Distribution Profile - 030

(1992)



American AL175 **Year 2007**

175 CFH

Code: 033

	Control Group-Installed Year																	
	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2001	2003	2005
Sample Plan	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced
Sample Size	50	50	32	80	50	80	80	80	80	80	80	80	80	80	80	80	50	50
Original Population	1368	2025	983	3943	2439	6896	8343	8093	8196	8407	8401	5537	9005	6001	8818	4747	2897	2405
# of Slow Failures	1	1	0	0	0	0	2	2	0	2	2	0	1	1	0	1	0	0
# of Fast Failures	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0
Total Failures:	1	2	0	0	0	0	2	3	0	2	2	0	2	1	0	2	0	0
Accept Level	7	7	5	10	7	10	10	10	10	10	10	10	10	10	10	10	7	7
Reject Level	10	10	8	13	10	13	13	13	13	13	13	13	13	13	13	13	10	10
Pass / Fail?	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
If Failed - Remove By:																		
Statistical Data:																		
Mean (Average Proof)	-0.057	-0.261	-0.02813	-0.00562	0.033	-0.0075	0.11125	0.0575	0.0775	-0.09688	-0.25375	-0.29813	-0.25063	-0.39063	-0.2175	-0.42375	-0.371	-0.514
Median	-0.025	-0.3	0	0.05	0.025	0.05	0.2	0.2	0.05	-0.05	-0.2	-0.275	-0.4	-0.45	-0.2	-0.5	-0.35	-0.45
Standard Deviation	0.673326	0.758711	0.657946	0.567305	0.601835	0.423898	0.743919	1.049506	0.518451	0.573869	0.691759	0.653057	0.853307	0.514972	0.530053	0.94601	0.406841	0.507901
Sample Variance	0.453368	0.575642	0.432893	0.321835	0.362205	0.17969	0.553416	1.101462	0.268791	0.329326	0.47853	0.426484	0.728133	0.265196	0.280956	0.894935	0.165519	0.257963
Skewness	-0.48517	0.582796	-0.10984	-0.11298	0.008438	-0.34772	-1.00836	-2.31706	-0.12917	-1.34021	-0.90536	0.936196	1.658663	0.309276	0.03005	-1.83692	-0.0984	-0.33128
Minimum	-2.05	-2.55	-1.75	-1.65	-1.6	-1.2	-2.75	-6.2	-1.1	-2.45	-2.7	-1.85	-2.05	-2.3	-1.95	-6.05	-1.35	-1.8
Maximum	1.1	2.75	1.45	1.35	1.4	0.95	1.6	3.95	1.45	1	1.8	2.4	3.9	1.55	1.05	3.05	0.45	0.25
Count	50	50	32	80	50	80	80	80	80	80	80	80	80	80	80	80	50	50
Confidence Level(95.0%)	0.191357	0.215623	0.237215	0.126248	0.17104	0.094334	0.165551	0.233556	0.115376	0.127708	0.153943	0.145331	0.189894	0.114601	0.117957	0.210524	0.115623	0.144844

Test Year 2007

Meter Code 033 American AL175

Code & Year:	1985
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	1
-1.2 to -.4	11
-.4 to .4	25
.4 to 1.2	12
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	50

Code & Year:	1986
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	3
-1.2 to -.4	14
-.4 to .4	29
.4 to 1.2	2
1.2 to 2.0	0
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	0
Total	50

Code & Year:	1987
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	7
-.4 to .4	18
.4 to 1.2	5
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year:	1988
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	20
-.4 to .4	39
.4 to 1.2	19
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year:	1989
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	9
-.4 to .4	27
.4 to 1.2	10
1.2 to 2.0	3
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	50

Code & Year:	1990
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	13
-.4 to .4	57
.4 to 1.2	10
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year:	1991
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	2
-.2 to -1.2	3
-1.2 to -.4	7
-.4 to .4	43
.4 to 1.2	21
1.2 to 2.0	4
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year:	1992
Data Range	Number
LT -3.6	1
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	3
-1.2 to -.4	8
-.4 to .4	40
.4 to 1.2	26
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	1
Total	80

Code & Year:	1993
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	14
-.4 to .4	41
.4 to 1.2	24
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year:	1994
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	2
-.2 to -1.2	0
-1.2 to -.4	18
-.4 to .4	49
.4 to 1.2	11
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Test Year 2007

Meter Code 033 American AL175

Code & Year:	1995
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	2
-.2 to -1.2	4
-1.2 to -.4	21
-.4 to .4	45
.4 to 1.2	7
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year:	1996
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	3
-1.2 to -.4	35
-.4 to .4	33
.4 to 1.2	8
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year:	1997
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	5
-1.2 to -.4	32
-.4 to .4	29
.4 to 1.2	10
1.2 to 2.0	2
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	1
Total	80

Code & Year:	1998
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	1
-1.2 to -.4	39
-.4 to .4	35
.4 to 1.2	3
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year:	1999
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	29
-.4 to .4	40
.4 to 1.2	10
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year:	2001
Data Range	Number
LT -3.6	1
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	5
-1.2 to -.4	36
-.4 to .4	32
.4 to 1.2	3
1.2 to 2.0	2
2.0 to 2.8	0
2.8 to 3.6	1
GT 3.6	0
Total	80

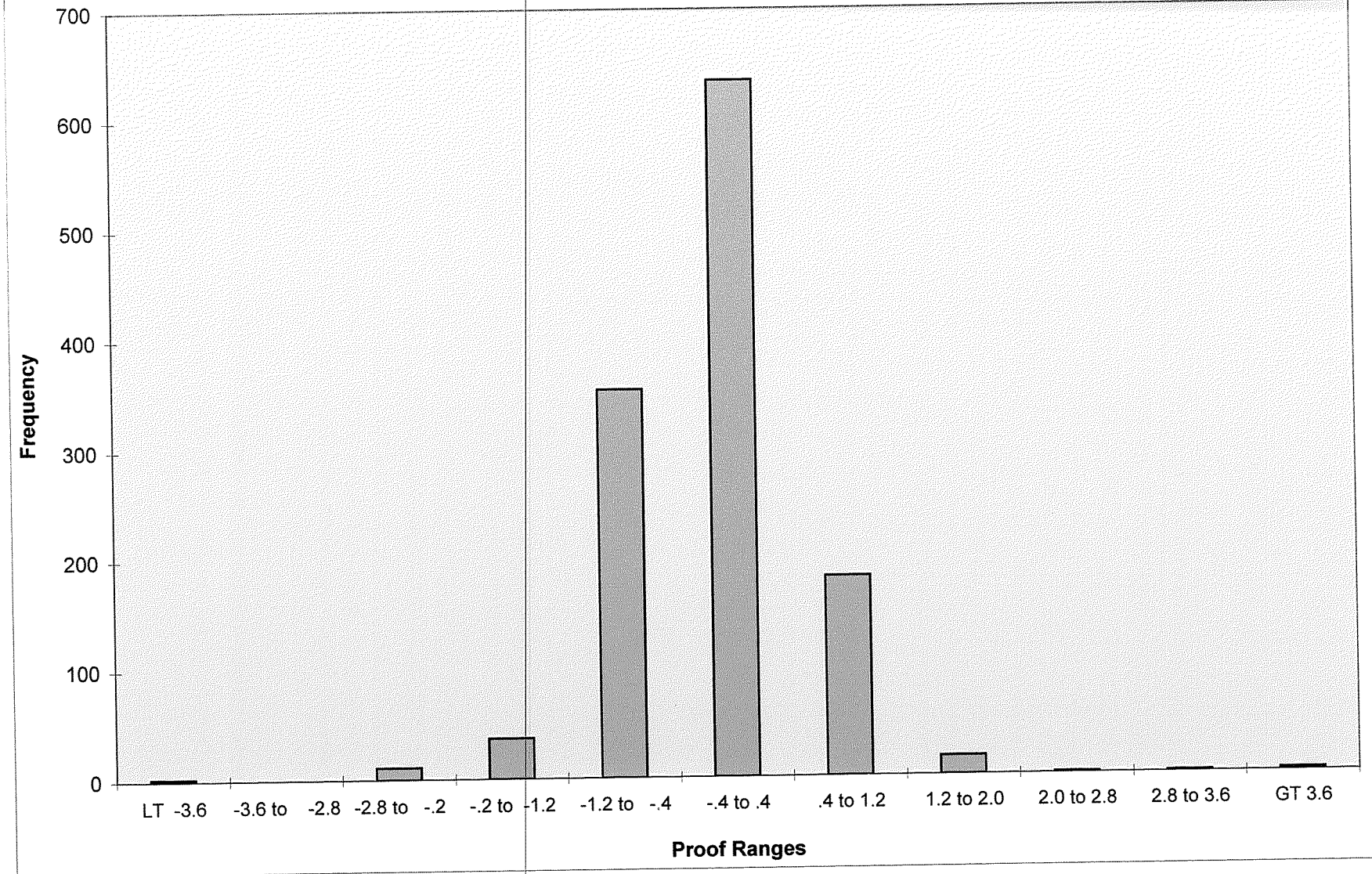
Code & Year:	2003
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	20
-.4 to .4	28
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	50

Code & Year:	2005
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	4
-1.2 to -.4	21
-.4 to .4	25
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	50

Code & Year:	Total
Data Range	Number
LT -3.6	2
-3.6 to -2.8	0
-2.8 to -.2	11
-.2 to -1.2	37
-1.2 to -.4	354
-.4 to .4	635
.4 to 1.2	182
1.2 to 2.0	17
2.0 to 2.8	1
2.8 to 3.6	1
GT 3.6	2
Total	1242

American AL175 Distribution Profile - 033

(1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2001, 2003, 2005)



American AL175
175 CFH
Code: 33A

Year 2007

	Control Group-Installed Year								
	1992	**1993**	**1994**	**1997**					
Sample Plan	Reduced	Reduced	Reduced	Reduced					
Sample Size	80	50	50	32					
Original Population	5435	2267	2833	975					
# of Slow Failures	0	0	0	0					
# of Fast Failures	2	0	1	0					
Total Failures:	2	0	1	0					
Accept Level	10	7	7	5					
Reject Level	13	10	10	8					
Pass / Fail?	**Pass**	**Pass**	**Pass**	**Pass**					
If Failed - Remove By:									
Statistical Data:									
Mean (Average Proof)	0.106875	0.041	-0.053	-0.303125					
Median	0.075	0.025	-0.05	-0.35					
Standard Deviation	0.732463	0.609591	0.602411	0.55328					
Sample Variance	0.536503	0.371601	0.362899	0.306119					
Skewness	1.248511	0.908741	1.054728	0.766301					
Minimum	-1.3	-1.25	-1.25	-1.35					
Maximum	3.25	1.9	2.15	1.3					
Count	80	50	50	32					
Confidence Level(95.0%)	0.163002	0.173244	0.171203	0.199479					

Year 2007

Meter Code 33A American AL175

Code & Year:	1992
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	15
-.4 to .4	43
.4 to 1.2	17
1.2 to 2.0	2
2.0 to 2.8	1
2.8 to 3.6	1
GT 3.6	0
Total	80

#

Code & Year:	1993
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	9
-.4 to .4	29
.4 to 1.2	8
1.2 to 2.0	3
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	50

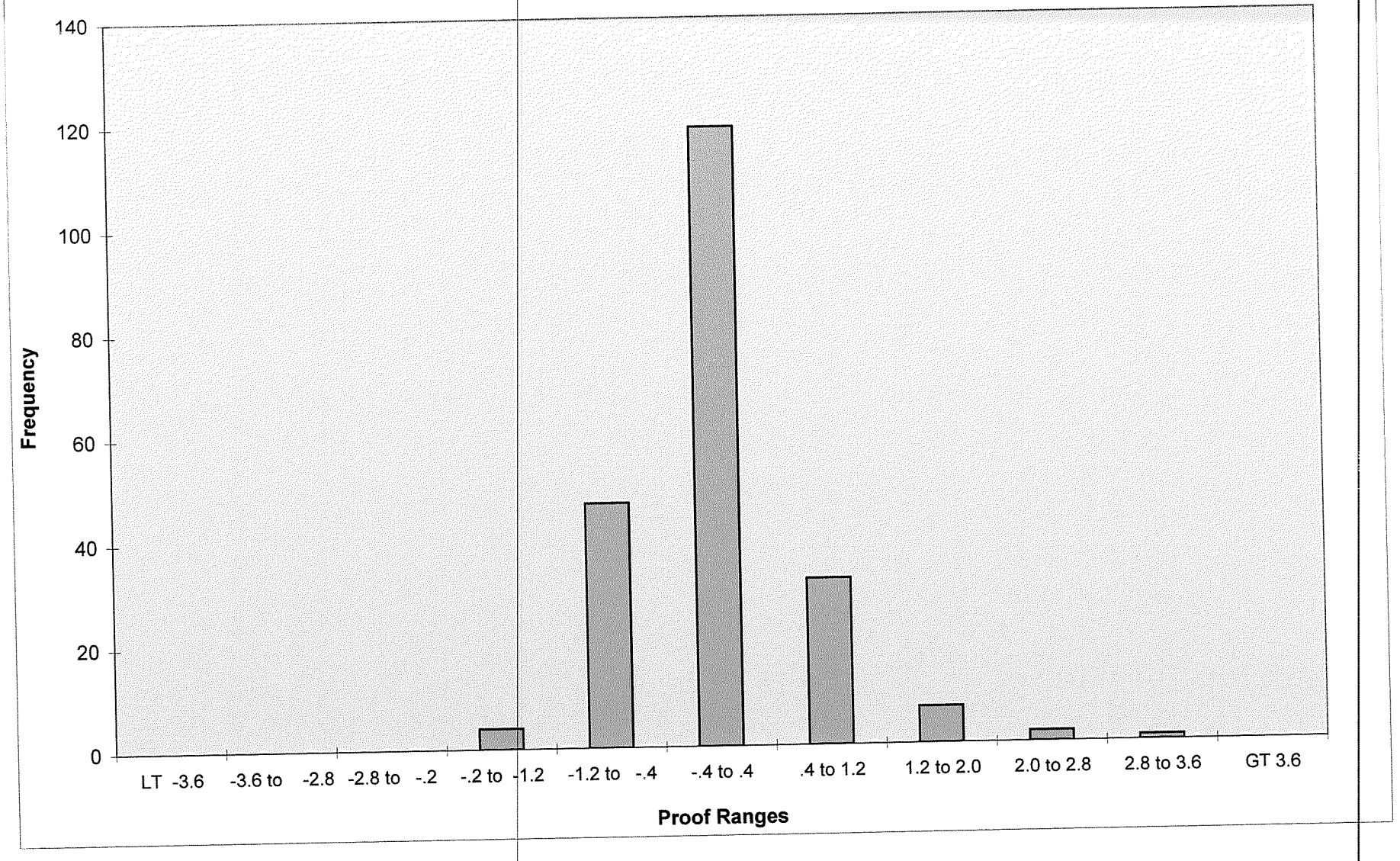
Code & Year:	1994
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	11
-.4 to .4	31
.4 to 1.2	5
1.2 to 2.0	1
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	0
Total	50

Code & Year:	1997
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	12
-.4 to .4	16
.4 to 1.2	2
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year:	Total
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	4
-1.2 to -.4	47
-.4 to .4	119
.4 to 1.2	32
1.2 to 2.0	7
2.0 to 2.8	2
2.8 to 3.6	1
GT 3.6	0
Total	212

American AL175 Distribution Profile - 33A

(1992, 1993, 1994, 1997)



American 5B225
225 CFH
Code: 041

Year 2007

	Control Group-Installed Year								
	1986	1987	1988	1989	1990	1993	1995	1996	
Sample Plan	Single	Single	Single	Single	Single	Single	Single	Single	
Sample Size	32	32	32	32	32	32	50	50	
Original Population	176	98	119	170	127	55	343	423	
# of Slow Failures	1	0	1	1	2	0	0	0	
# of Fast Failures	2	0	3	1	0	1	0	0	
Total Failures:	3	0	4	2	2	1	0	0	
Accept Level	5	5	5	5	5	5	7	7	
Reject Level	6	6	6	6	6	6	8	8	
Pass / Fail?	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	
If Failed - Remove By:									
Statistical Data:									
Mean (Average Proof)	-0.254688	-0.007812	0.217188	0.051563	-0.1	-0.353125	-0.31	-0.516	
Median	-0.15	-0.125	0.025	0.05	0.1	-0.375	-0.3	-0.55	
Standard Deviation	1.1733162	0.954878	1.387072	1.114963	0.992553	0.74854	0.676199	0.542052	
Sample Variance	1.3766709	0.911792	1.923969	1.243143	0.985161	0.560313	0.457245	0.29382	
Skewness	-0.309327	0.197568	0.608773	0.250575	-0.437997	0.956462	0.3314	0.262687	
Minimum	-3.75	-1.65	-2.1	-2.2	-2.1	-1.95	-1.9	-1.65	
Maximum	2.6	2	3.25	3.05	1.55	2.05	1.3	0.95	
Count	32	32	32	32	32	32	50	50	
Confidence Level(95.0%)	0.4230256	0.34427	0.500093	0.401987	0.357853	0.269878	0.192174	0.154049	

Year 2007

Meter Code 041 American 5B-225

Code & Year:	1986
Data Range	Number
LT -3.6	1
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	3
-1.2 to -.4	10
-.4 to .4	11
.4 to 1.2	5
1.2 to 2.0	0
2.0 to 2.8	2
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year:	1987
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	4
-1.2 to -.4	7
-.4 to .4	11
.4 to 1.2	6
1.2 to 2.0	4
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year:	1988
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	5
-1.2 to -.4	3
-.4 to .4	12
.4 to 1.2	5
1.2 to 2.0	3
2.0 to 2.8	0
2.8 to 3.6	3
GT 3.6	0
Total	32

Code & Year:	1989
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	3
-1.2 to -.4	6
-.4 to .4	10
.4 to 1.2	8
1.2 to 2.0	3
2.0 to 2.8	0
2.8 to 3.6	1
GT 3.6	0
Total	32

Code & Year:	1990
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	2
-.2 to -1.2	2
-1.2 to -.4	8
-.4 to .4	9
.4 to 1.2	9
1.2 to 2.0	2
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year:	1993
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	13
-.4 to .4	15
.4 to 1.2	0
1.2 to 2.0	1
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	0
Total	32

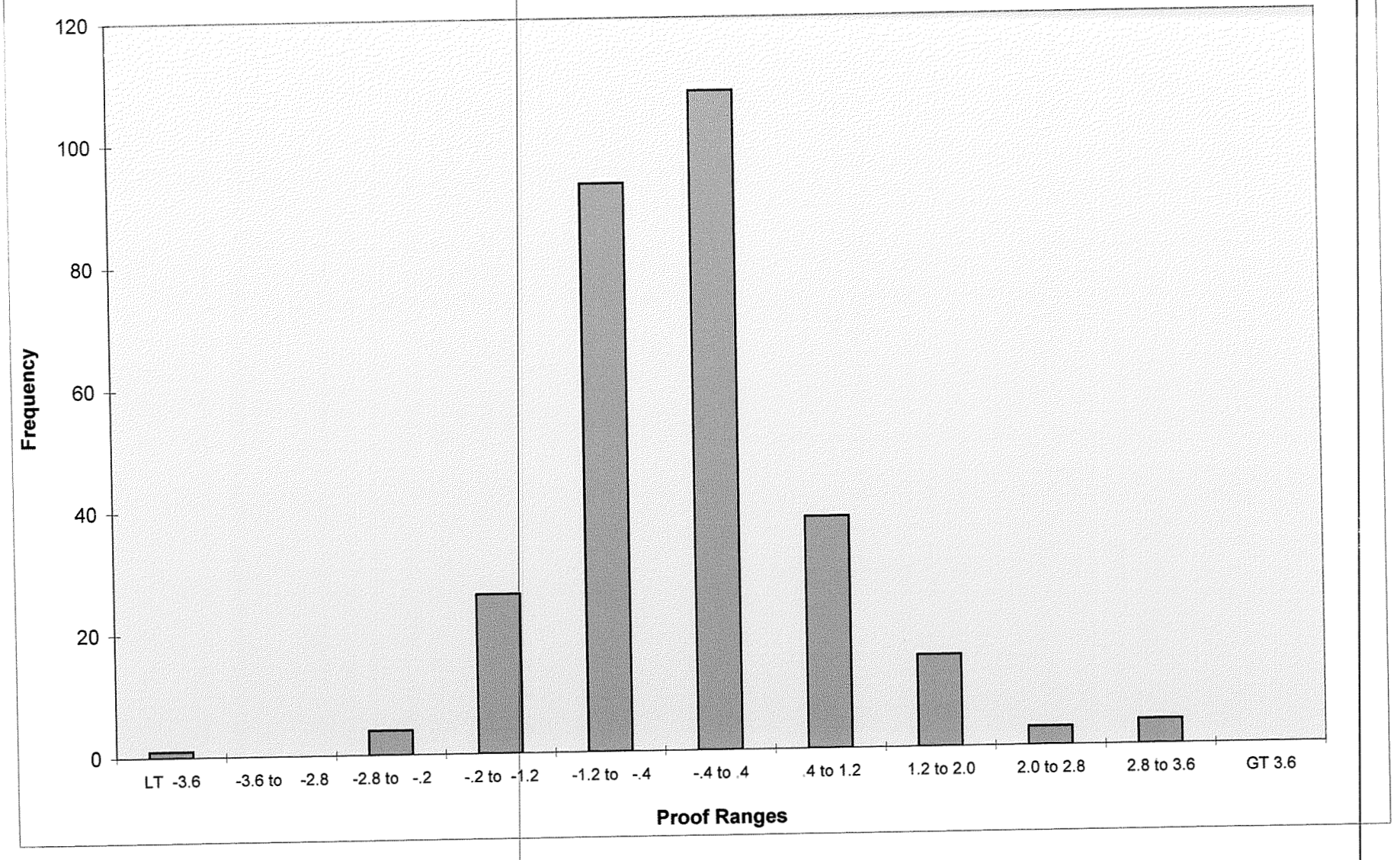
Code & Year:	1995
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	3
-1.2 to -.4	19
-.4 to .4	23
.4 to 1.2	3
1.2 to 2.0	2
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	50

Code & Year:	1996
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	4
-1.2 to -.4	27
-.4 to .4	17
.4 to 1.2	2
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	50

Code & Year:	Total
Data Range	Number
LT -3.6	1
-3.6 to -2.8	0
-2.8 to -.2	4
-.2 to -1.2	26
-1.2 to -.4	93
-.4 to .4	108
.4 to 1.2	38
1.2 to 2.0	15
2.0 to 2.8	3
2.8 to 3.6	4
GT 3.6	0
Total	292

American 5B-225 Distribution Profile - 041

(1986, 1987, 1988, 1989, 1990, 1993, 1995, 1996)



Rockwell R250 **Year 2007**

250 CFH

Code: 057

	Control Group-Installed Year								
	1988	1989	1990	1995					
Sample Plan	Single	Single	Single	Single					
Sample Size	80	80	50	32					
Original Population	638	568	479	261					
# of Slow Failures	11	12	3	2					
# of Fast Failures	1	1	1	3					
Total Failures:	12	13	4	5					
Accept Level	10	10	7	5					
Reject Level	11	11	8	6					
Pass / Fail?	**Fail**	**Fail**	**Pass**	**Pass**					
If Failed - Remove By:	June 2009	June 2009							
Statistical Data:									
Mean (Average Proof)	-0.575625	-0.62875	-0.433	0.032813					
Median	-0.2	-0.525	-0.3	-0.25					
Standard Deviation	1.350246	1.453798	1.10724	1.68679					
Sample Variance	1.823164	2.11353	1.225981	2.84526					
Skewness	-0.82397	-0.912486	-0.560931	0.962556					
Minimum	-4.35	-5.55	-4.1	-3.35					
Maximum	2.9	2.15	2.25	4.4					
Count	80	80	50	32					
Confidence Level(95.0%)	0.300483	0.323527	0.314674	0.608153					

Year 2007

Meter Code 057 Rockwell R250

Code & Year:	1988
Data Range	Number
LT -3.6	4
-3.6 to -2.8	3
-2.8 to -.2	4
-.2 to -1.2	9
-1.2 to -.4	17
-.4 to .4	25
.4 to 1.2	16
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	1
GT 3.6	0
Total	80

Code & Year:	1989
Data Range	Number
LT -3.6	3
-3.6 to -2.8	3
-2.8 to -.2	6
-.2 to -1.2	11
-1.2 to -.4	19
-.4 to .4	21
.4 to 1.2	10
1.2 to 2.0	6
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	0
Total	80

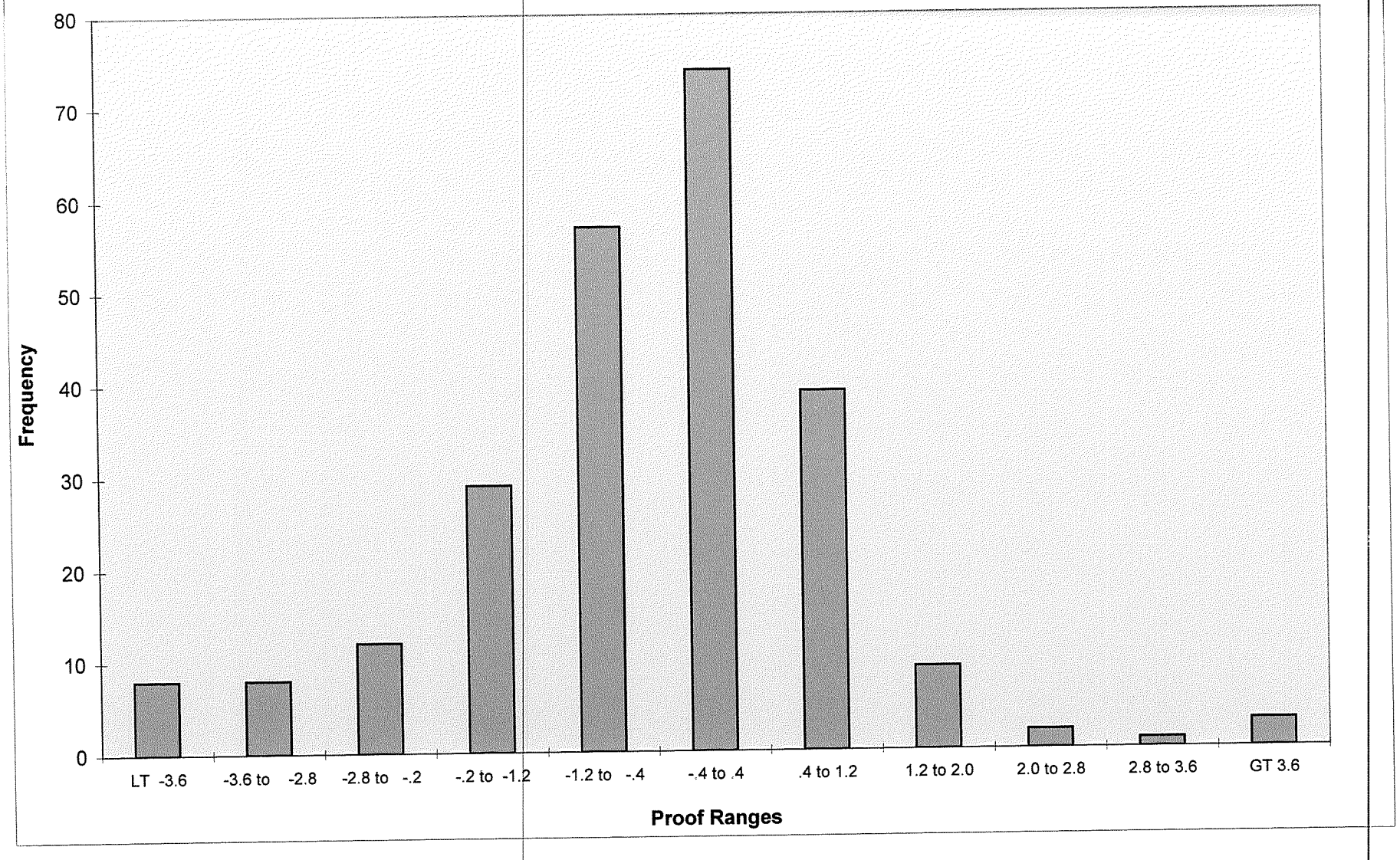
Code & Year:	1990
Data Range	Number
LT -3.6	1
-3.6 to -2.8	0
-2.8 to -.2	2
-.2 to -1.2	8
-1.2 to -.4	11
-.4 to .4	19
.4 to 1.2	6
1.2 to 2.0	2
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	0
Total	50

Code & Year:	1995
Data Range	Number
LT -3.6	0
-3.6 to -2.8	2
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	10
-.4 to .4	9
.4 to 1.2	7
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	3
Total	32

Code & Year:	Totals
Data Range	Number
LT -3.6	8
-3.6 to -2.8	8
-2.8 to -.2	12
-.2 to -1.2	29
-1.2 to -.4	57
-.4 to .4	74
.4 to 1.2	39
1.2 to 2.0	9
2.0 to 2.8	2
2.8 to 3.6	1
GT 3.6	3
Total	242

Rockwell R250 Distribution Profile - 057

(1988, 1989, 1990, 1995)



American AC250	Year 2007																	
250 CFH	Control Group-Installed Year																	
Code: 078	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2001	2003	2005
Sample Plan	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced	Reduced
Sample Size	32	80	80	80	80	80	50	32	32	50	80	80	80	80	80	80	50	80
Original Population	1021	4479	3854	4410	3405	4854	2891	143	727	2506	4721	9742	8997	6850	5025	5667	2260	7615
# of Slow Failures	0	0	0	2	0	2	0	0	0	0	0	1	0	0	0	2	0	0
# of Fast Failures	0	1	0	1	0	1	0	1	0	0	0	0	0	0	1	0	0	0
Total Failures:	0	1	0	3	0	3	0	1	0	0	0	1	0	0	1	2	0	0
Accept Level	5	10	10	10	10	10	7	5	5	7	10	10	10	10	10	10	7	10
Reject Level	8	13	13	13	13	13	10	8	8	10	13	13	13	13	13	13	10	13
Pass / Fail?	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
If Failed - Remove By:																		
Statistical Data:																		
Mean (Average Proof)	-0.07813	-0.095	-0.63625	-0.52688	-0.78375	-0.56188	-0.996	-0.09219	-0.1125	-0.276	-0.16875	-0.30313	-0.22	-0.27313	-0.21188	-0.2575	-0.277	0.01375
Median	0	-0.125	-0.7	-0.65	-0.775	-0.55	-1.05	-0.2	-0.2	-0.2	-0.2	-0.275	-0.15	-0.225	-0.2	-0.2	-0.225	0
Standard Deviation	0.417932	0.665877	0.579883	0.879728	0.473525	0.777624	0.525652	0.826585	0.442865	0.505403	0.542403	0.509116	0.4574	0.448623	0.671492	0.534275	0.415909	0.466808
Sample Variance	0.174667	0.443392	0.336264	0.77392	0.224226	0.604699	0.27631	0.683243	0.196129	0.255433	0.294201	0.259199	0.209215	0.201262	0.450902	0.285449	0.172981	0.21791
Skewness	-0.12864	2.141037	0.953233	3.606258	0.877857	-0.334	0.416486	1.707879	0.172843	-0.36822	0.048867	-0.38088	-0.21421	-0.39525	3.605062	-1.69438	0.027309	0.104201
Minimum	-0.9	-1.15	-1.65	-2.15	-1.7	-3.85	-2	-1.3	-0.95	-1.7	-1.9	-2.1	-1.5	-1.4	-2	-2.75	-1.4	-1.35
Maximum	0.85	3.6	1.45	5.15	1.25	2.55	0.5	2.9	0.9	0.95	1.3	0.95	1.05	0.65	4.3	0.9	1	1.25
Count	32	80	80	80	80	80	50	32	32	50	80	80	80	80	80	80	50	80
Confidence Level(95.0%)	0.150681	0.148184	0.129047	0.195774	0.105378	0.173052	0.149389	0.298016	0.15967	0.143634	0.120706	0.113298	0.101789	0.099836	0.149433	0.118897	0.1182	0.103883

Year 2007

Meter Code 078 American AC250

Code & Year:	1985
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	9
-.4 to .4	21
.4 to 1.2	2
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year:	1986
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	24
-.4 to .4	45
.4 to 1.2	10
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	1
GT 3.6	0
Total	80

Code & Year:	1987
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	12
-1.2 to -.4	43
-.4 to .4	22
.4 to 1.2	2
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year:	1988
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	2
-.2 to -1.2	7
-1.2 to -.4	45
-.4 to .4	23
.4 to 1.2	1
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	1
Total	80

Code & Year:	1989
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	15
-1.2 to -.4	49
-.4 to .4	15
.4 to 1.2	0
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year:	1990
Data Range	Number
LT -3.6	1
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	8
-1.2 to -.4	38
-.4 to .4	28
.4 to 1.2	3
1.2 to 2.0	0
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year:	1991
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	17
-1.2 to -.4	26
-.4 to .4	6
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	50

Code & Year:	1992
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	10
-.4 to .4	15
.4 to 1.2	4
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	1
GT 3.6	0
Total	32

Code & Year:	1993
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	8
-.4 to .4	19
.4 to 1.2	5
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year:	1994
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	14
-.4 to .4	32
.4 to 1.2	3
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	50

Year 2007

Meter Code 078 American AC250

Code & Year:	1995
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	24
-.4 to .4	46
.4 to 1.2	8
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year:	1996
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	1
-1.2 to -.4	29
-.4 to .4	42
.4 to 1.2	7
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year:	1997
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	25
-.4 to .4	49
.4 to 1.2	4
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year:	1998
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	28
-.4 to .4	47
.4 to 1.2	3
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year:	1999
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	3
-1.2 to -.4	21
-.4 to .4	52
.4 to 1.2	3
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	1
Total	80

Code & Year:	2001
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	2
-.2 to -1.2	1
-1.2 to -.4	20
-.4 to .4	53
.4 to 1.2	4
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

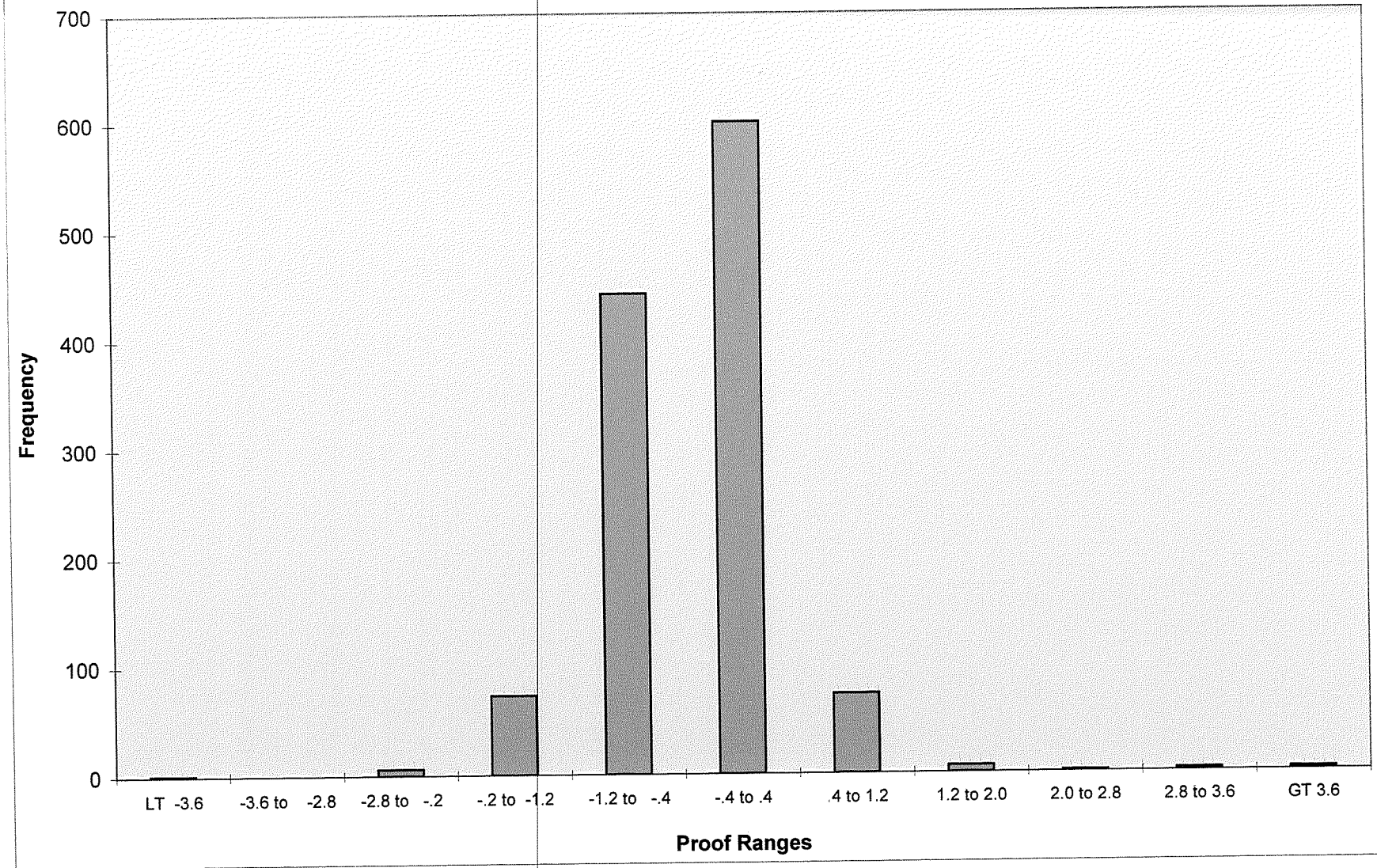
Code & Year:	2003
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	17
-.4 to .4	31
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	50

Code & Year:	2005
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	12
-.4 to .4	54
.4 to 1.2	12
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	80

Code & Year:	Totals
Data Range	Number
LT -3.6	1
-3.6 to -2.8	0
-2.8 to -.2	6
-.2 to -1.2	73
-1.2 to -.4	442
-.4 to .4	600
.4 to 1.2	73
1.2 to 2.0	6
2.0 to 2.8	1
2.8 to 3.6	2
GT 3.6	2
Total	1206

American AC250 Distribution Profile - 078

(1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2001, 2003, 2005)



Rockwell R200 **Year 2007**

200 CFH

Code: 079

	Control Group-Installed Year								
	1985	1996	1997						
Sample Plan	Single	Single	Single						
Sample Size	50	32	3*						
Original Population	300	256	3						
# of Slow Failures	0	0	0						
# of Fast Failures	5	0	0						
Total Failures:	5	0	0						
Accept Level	7	5	1						
Reject Level	8	6	2						
Pass/ Fail?	**Pass**	**Pass**	**Pass**						
If Failed - Remove By:			Exhaust						
Statistical Data:									
Mean (Average Proof)	0.563	-0.425	-0.333333						
Median	0.45	-0.35	-0.05						
Standard Deviation	0.878996	0.577816	0.812917						
Sample Variance	0.772634	0.333871	0.660833						
Skewness	0.790697	0.336299	-1.377895						
Minimum	-1	-1.5	-1.25						
Maximum	2.75	1	0.3						
Count	50	32	3						
Confidence Level(95.0%)	0.249808	0.208325	2.019397						

* Population less than required 32 minimum sample size - all meters to be changed - Single Sampling Plan For Normal Inspection used to obtain sample size to determine if control passed or failed.

Year 2007

Meter Code 079 Rockwell R200

Code & Year:	1985
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	4
-.4 to .4	20
.4 to 1.2	16
1.2 to 2.0	5
2.0 to 2.8	5
2.8 to 3.6	0
GT 3.6	0
Total	50

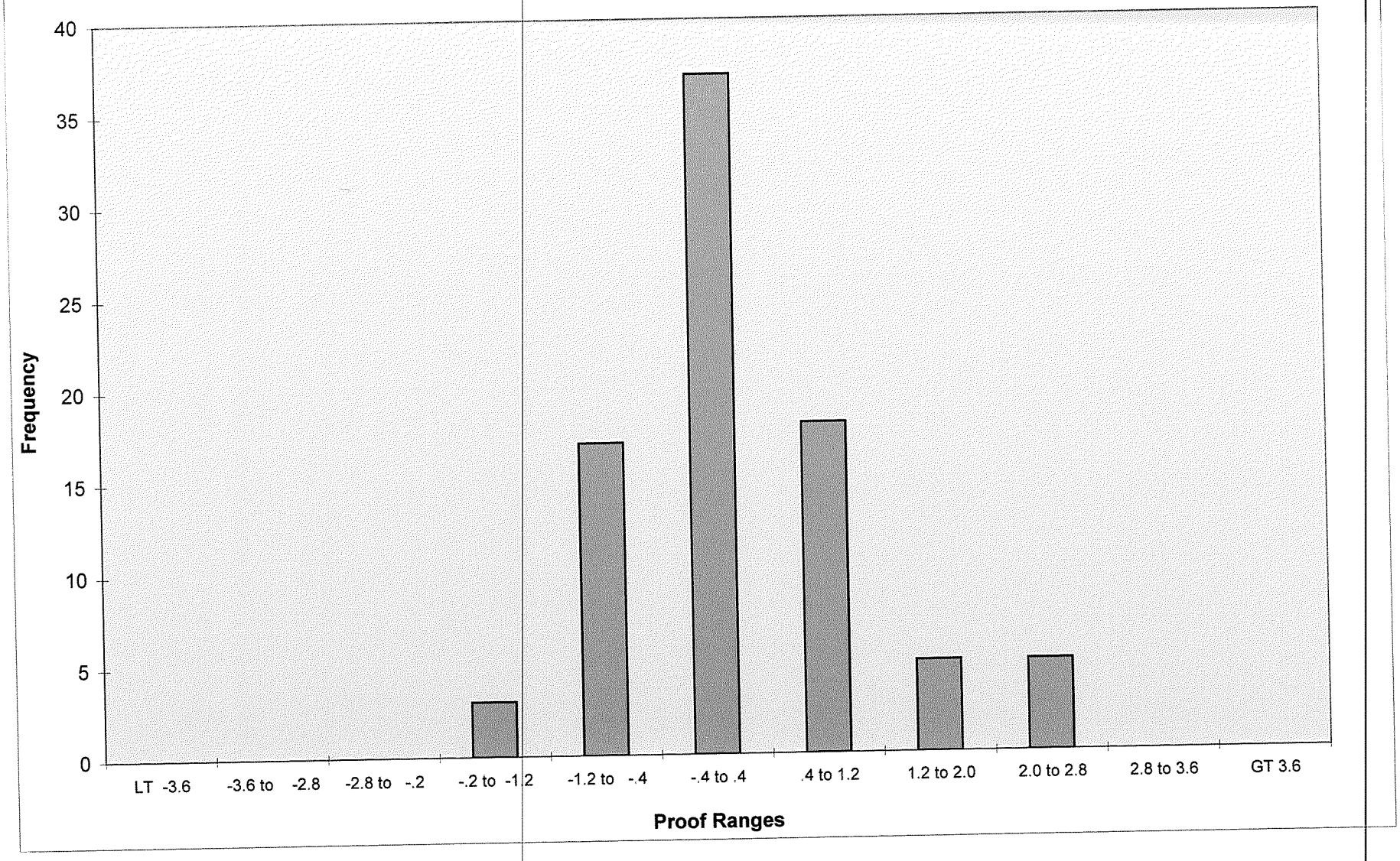
Code & Year:	1996
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	13
-.4 to .4	15
.4 to 1.2	2
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year:	1997
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	0
-.4 to .4	2
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	3

Code & Year:	Total
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	3
-1.2 to -.4	17
-.4 to .4	37
.4 to 1.2	18
1.2 to 2.0	5
2.0 to 2.8	5
2.8 to 3.6	0
GT 3.6	0
Total	85

Rockwell R200 Distribution Profile - 079

(1985, 1996, 1997)



American AL1000
1000 CFH
Code: 014

Test Year 2007

	Control Group-Installed Year								
	1997	1998	1999	2000	2001	2002	2003	2005	
Sample Plan	Single	Single	Single	Single	Single	Single	Single	Single	
Sample Size	13*	20	20	32	32	13	50	50	
Original Population	73	127	105	175	257	60	281	488	
# of Slow Failures	0	2	1	1	0	1	2	1	
# of Fast Failures	0	0	0	0	1	0	1	1	
Total Failures:	0	2	1	1	1	1	3	2	
Accept Level	2	3	3	5	5	2	7	7	
Reject Level	3	4	4	6	6	3	8	8	
Pass / Fail?	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	
If Failed - Remove By:	Exhaust								
Statistical Data:									
Mean (Average Proof)	-0.334615	-0.84	-0.51	-0.423438	-0.10625	-0.734615	-0.761	-0.622	
Median	0	-0.675	-0.525	-0.45	-0.075	-0.85	-0.7	-0.575	
Standard Deviation	0.864914	0.849861	0.937746	0.586403	0.99172	0.804515	0.957158	0.786568	
Sample Variance	0.748077	0.722263	0.879368	0.343868	0.983508	0.647244	0.916152	0.61869	
Skewness	-0.43584	0.192046	-1.035523	-0.290716	1.231541	-0.13949	1.410935	0.227796	
Minimum	-1.8	-2.55	-3.25	-2.15	-1.9	-2.35	-2.75	-2.7	
Maximum	1	1.2	0.95	0.85	3.45	0.75	3.25	2.15	
Count	13	20	20	32	32	13	50	50	
Confidence Level(95.0%)	0.522663	0.397747	0.438879	0.211421	0.357553	0.486163	0.272021	0.22354	

* Control group in 10th year of service - maximum service period - all meters to be removed/tested. Sample size based on population was used to determine if group passed/failed in it's last year of service.

Year 2007

Meter Code 014 American AL1000

Code & Year:	1997
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	3
-1.2 to -.4	2
-.4 to .4	6
.4 to 1.2	2
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	13

Code & Year:	1998
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	2
-.2 to -1.2	5
-1.2 to -.4	8
-.4 to .4	4
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	20

Code & Year:	1999
Data Range	Number
LT -3.6	0
-3.6 to -2.8	1
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	15
-.4 to .4	3
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	20

Code & Year:	2000
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	2
-1.2 to -.4	14
-.4 to .4	11
.4 to 1.2	4
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year:	2001
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	3
-1.2 to -.4	7
-.4 to .4	15
.4 to 1.2	6
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	1
GT 3.6	0
Total	32

Code & Year:	2002
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	1
-1.2 to -.4	6
-.4 to .4	4
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	13

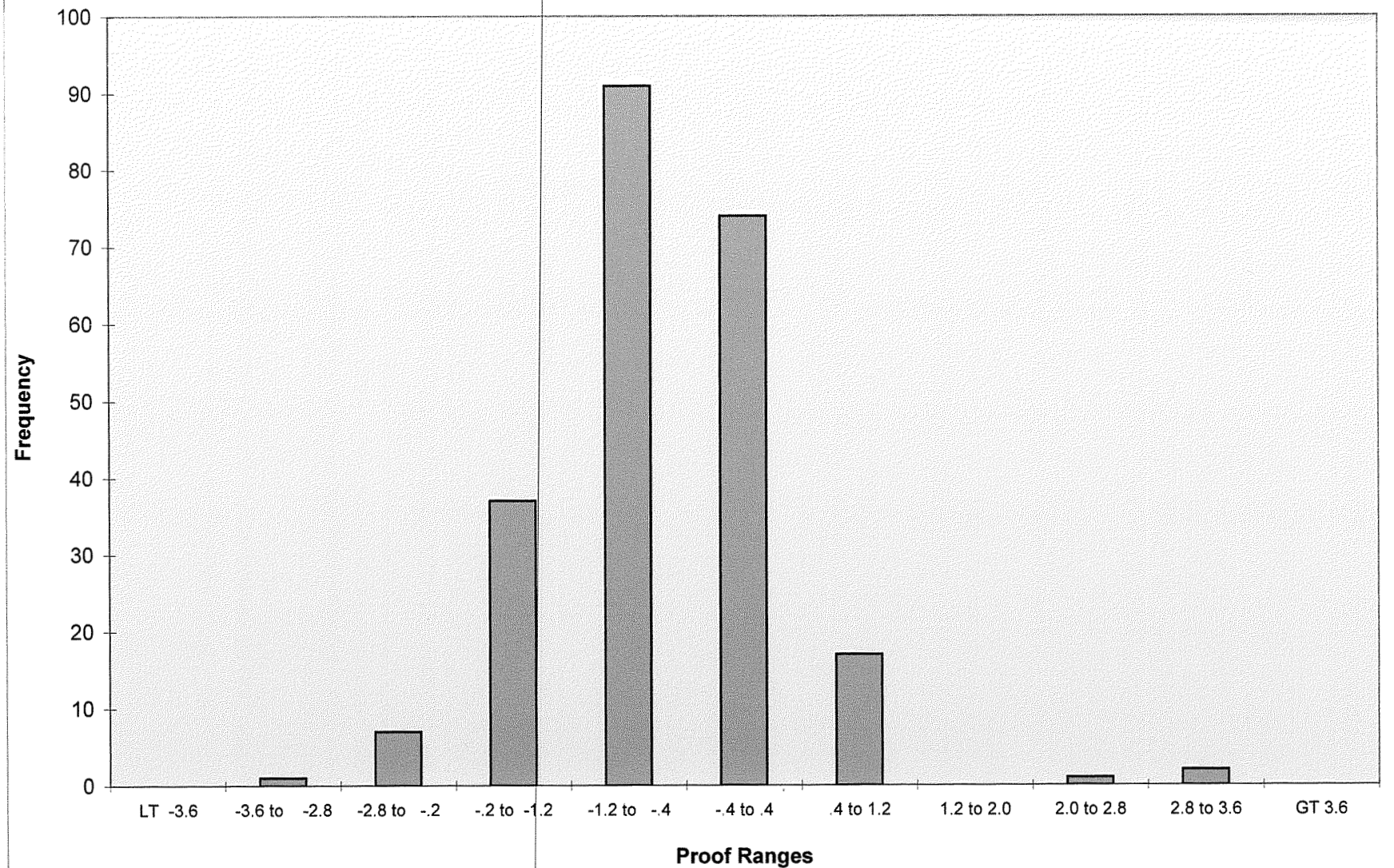
Code & Year:	2003
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	2
-.2 to -1.2	13
-1.2 to -.4	21
-.4 to .4	11
.4 to 1.2	2
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	1
GT 3.6	0
Total	50

Code & Year:	2005
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	9
-1.2 to -.4	18
-.4 to .4	20
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	0
Total	50

Code & Year:	Total
Data Range	Number
LT -3.6	0
-3.6 to -2.8	1
-2.8 to -.2	7
-.2 to -1.2	37
-1.2 to -.4	91
-.4 to .4	74
.4 to 1.2	17
1.2 to 2.0	0
2.0 to 2.8	1
2.8 to 3.6	2
GT 3.6	0
Total	230

American AL1000 Distribution Profile - 014

(1997, 1998, 1999, 2000, 2001, 2002, 2003, 2005)



Actaris 800A
800 CFH
Code 016

Test Year 2007

	Control Group-Installed Year								
	2002	2003							
Sample Plan	Single	Single							
Sample Size	20	2							
Original Population	98	3							
# of Slow Failures	1	0							
# of Fast Failures	0	0							
Total Failures:	1	0							
Acept Level	3	0							
Reject Level	4	1							
Pass / Fail ?	**Pass**	**Pass**							
If Failed - Remove By:									
Statistical Data:									
Mean (Average Proof)	-0.08	0.425							
Median	0.175	0.425							
Standard Deviation	0.808572	0.459619							
Sample Variance	0.653789	0.21125							
Skewness	-2.521437	NA							
Minimum	-2.9	0.1							
Maximum	0.65	0.75							
Count	20	2							
Confidence Level(95.0%)	0.378424	4.129517							

Year 2007

Meter Code 016 Actaris 800A

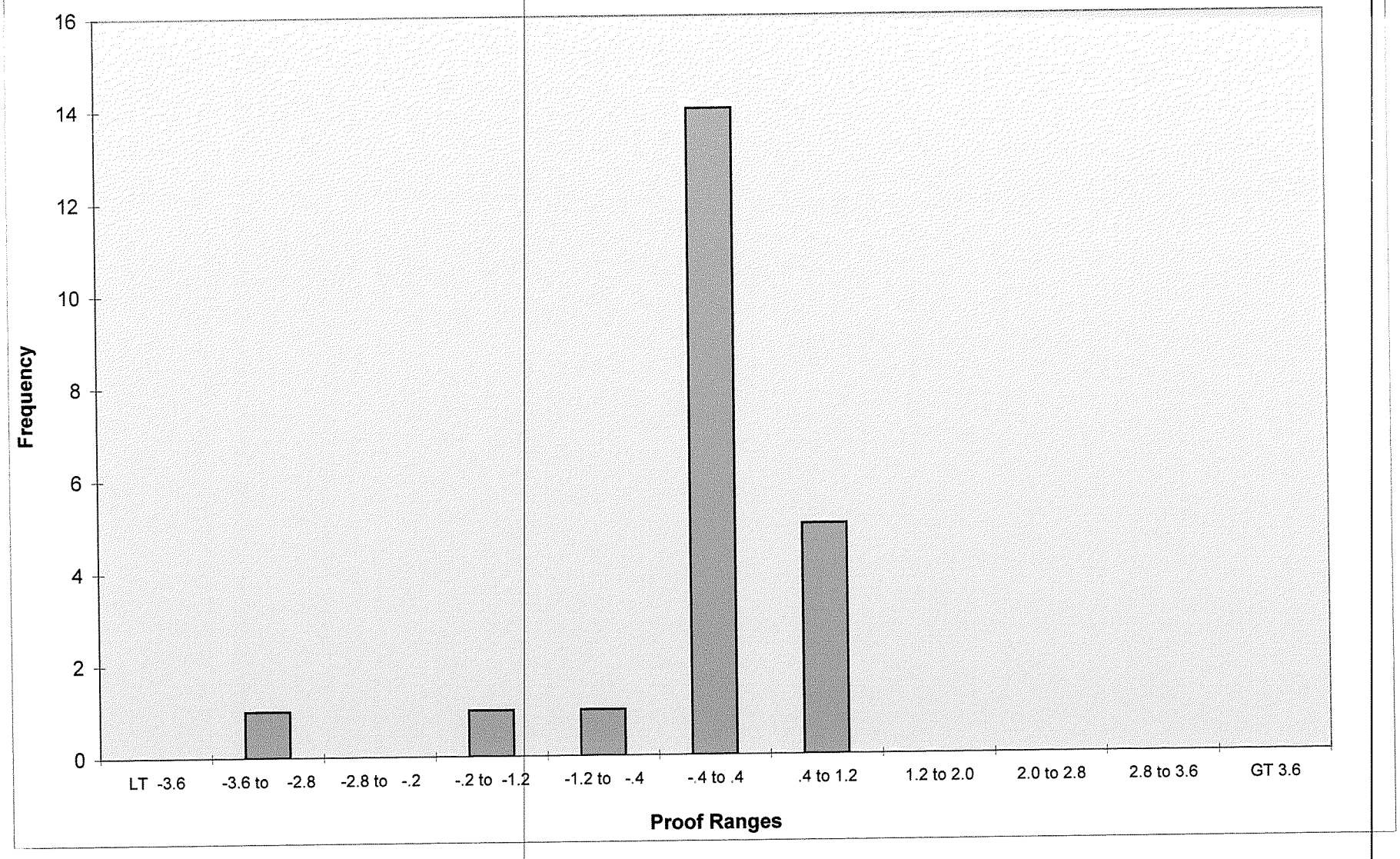
Code & Year:	2002
Data Range	Number
LT -3.6	0
-3.6 to -2.8	1
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	1
-.4 to .4	13
.4 to 1.2	4
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	20

Code & Year:	2003
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	0
-.4 to .4	1
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	2

Code & Year:	Total
Data Range	Number
LT -3.6	0
-3.6 to -2.8	1
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	1
-.4 to .4	14
.4 to 1.2	5
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	22

Actaris 800A Distribution Profile - 016

(2002, 2003)



Actaris 800A
800 CFH
Code 16T

Test Year 2007

	Control Group-Installed Year								
	2002								
Sample Plan	Single								
Sample Size	2								
Original Population	8								
# of Slow Failures	0								
# of Fast Failures	0								
Total Failures:	0								
Acept Level	0								
Reject Level	1								
Pass / Fail ?	**Pass**								
If Failed - Remove By:									
Statistical Data:									
Mean (Average Proof)	0.275								
Median	0.275								
Standard Deviation	0.035355								
Sample Variance	0.00125								
Skewness	NA								
Minimum	0.25								
Maximum	0.3								
Count	2								
Confidence Level(95.0%)	0.317655								

Year 2007

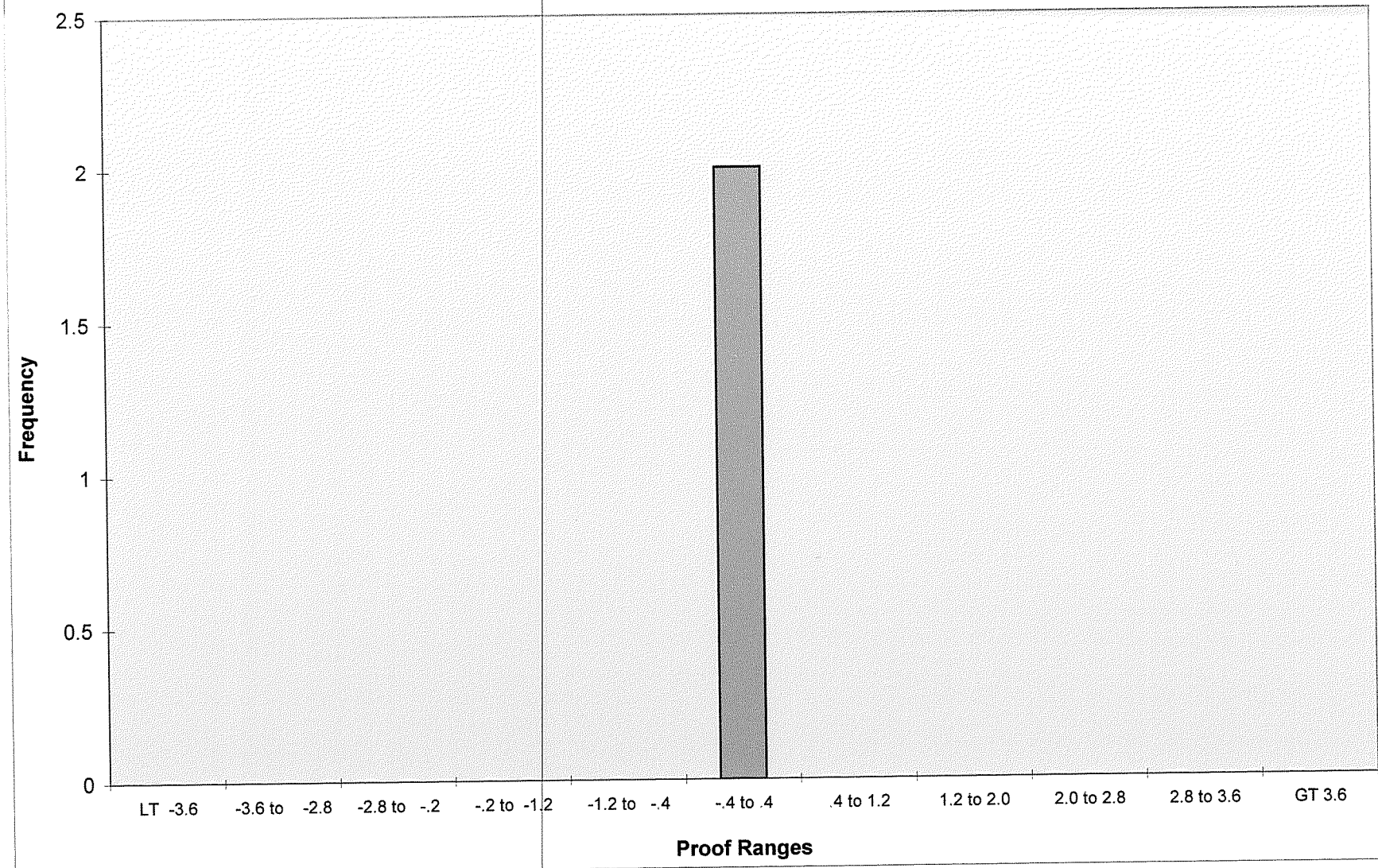
Meter Code 16T Actaris 800A

Code & Year:	2002
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	0
-.4 to .4	2
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	2

Code & Year:	Total
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	0
-.4 to .4	2
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	2

Actaris 800A Distribution Profile - 16T

(2002)



Actaris 1000A
1000 CFH
Code 017

Test Year 2007

	Control Group-Installed Year								
	2002	2003							
Sample Plan	Single	Single							
Sample Size	20	8							
Original Population	106	20							
# of Slow Failures	0	0							
# of Fast Failures	0	0							
Total Failures:	0	0							
Accept Level	3	1							
Reject Level	4	2							
Pass / Fail ?	**Pass**	**Pass**							
If Failed - Remove By:									
Statistical Data:									
Mean (Average Proof)	-0.375	-0.15625							
Median	-0.325	-0.3							
Standard Deviation	0.467777	0.537479							
Sample Variance	0.218816	0.288884							
Skewness	-0.981042	0.965504							
Minimum	-1.5	-0.7							
Maximum	0.35	0.85							
Count	20	8							
Confidence Level(95.0%)	0.218927	0.449344							

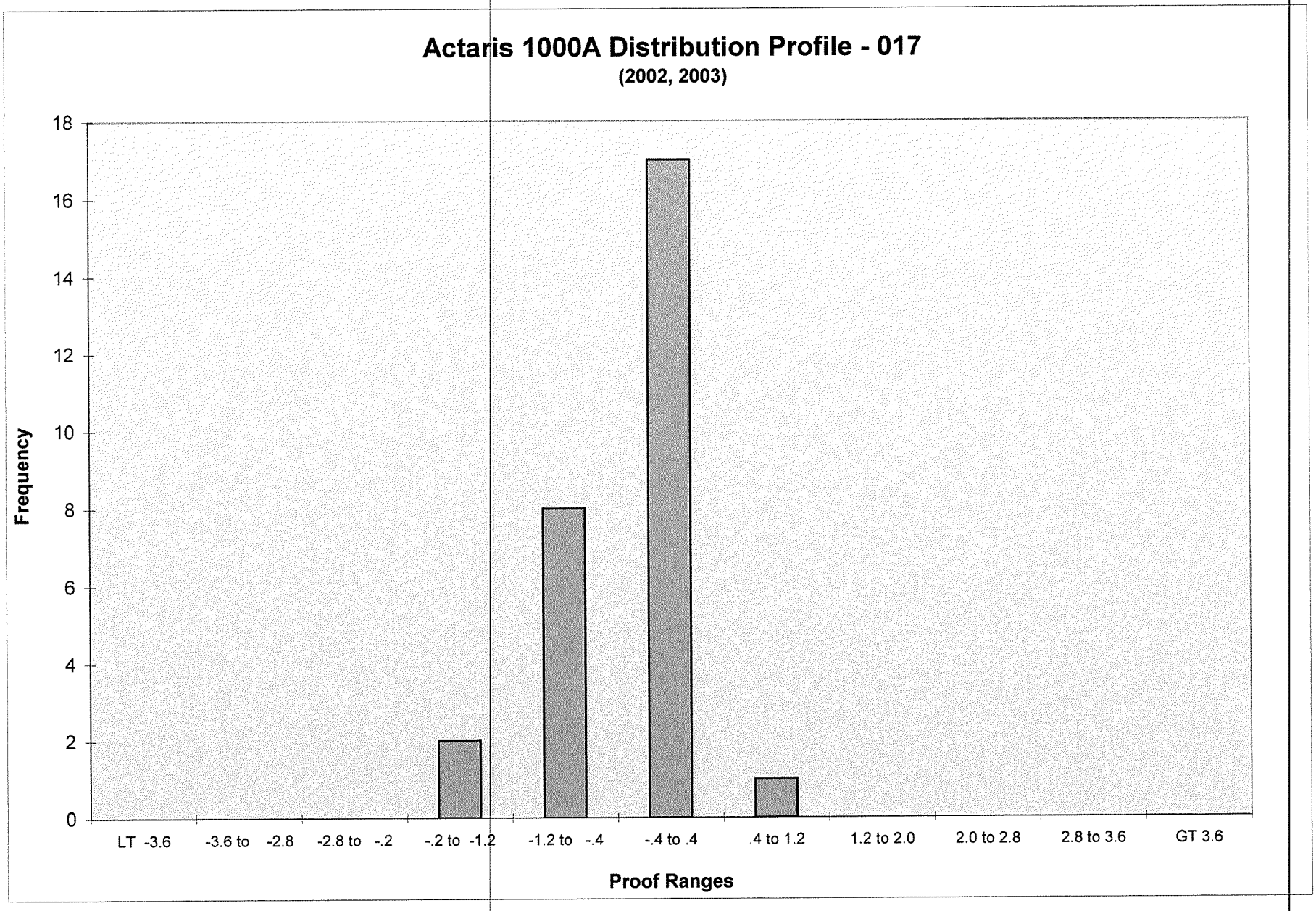
Year 2007

Meter Code 017 Actaris 1000A

Code & Year:	2002
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	5
-.4 to .4	13
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	20

Code & Year:	2003
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	3
-.4 to .4	4
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	8

Code & Year:	Total
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	8
-.4 to .4	17
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	28


Actaris 1000A Distribution Profile - 017
(2002, 2003)
Frequency
18
16
14
12
10
8
6
4
2
0
LT -3.6
-3.6 to -2.8
-2.8 to -.2
-.2 to -1.2
-1.2 to -.4
-.4 to .4
.4 to 1.2
1.2 to 2.0
2.0 to 2.8
2.8 to 3.6
GT 3.6
Proof Ranges

Actaris 1000A
1000 CFH
Code 17T

Test Year 2007

	Control Group-Installed Year								
	2002								
Sample Plan	Single								
Sample Size	2								
Original Population	8								
# of Slow Failures	0								
# of Fast Failures	0								
Total Failures:	0								
Accept Level	0								
Reject Level	1								
Pass / Fail ?	**Pass**								
If Failed - Remove By:									
Statistical Data:									
Mean (Average Proof)	-0.2								
Median	-0.2								
Standard Deviation	0.424264								
Sample Variance	0.18								
Skewness	NA								
Minimum	-0.5								
Maximum	0.1								
Count	2								
Confidence Level(95.0%)	3.811861								

Year 2007

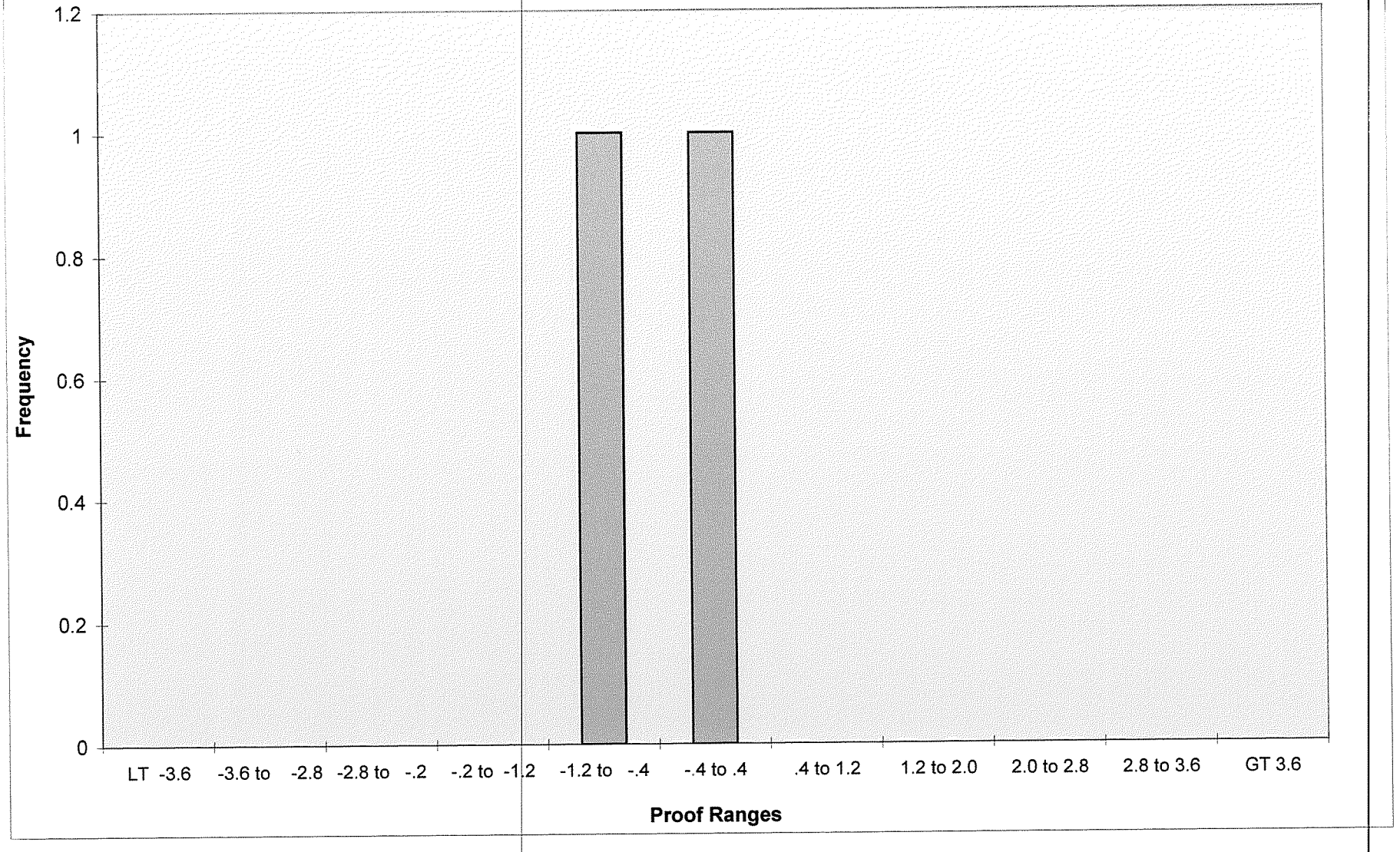
Meter Code 17T Actaris 1000A

Code & Year:	2002
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	1
-.4 to .4	1
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	2

Code & Year:	Total
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	1
-.4 to .4	1
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	2

Actaris 1000A Distribution Profile - 17T

(2002)



American AL 1400 Test Year 2007

1400 CFH

Code: 019

	Control Group-Installed Year								
	1997	1998	1999	2000	2001	2002	2003	2005	
Sample Plan	Single	Single	Single	Single	Single	Single	Single	Single	
Sample Size	2*	2	2	2	8	8	8	8	
Original Population	5	8	6	7	19	16	28	42	
# of Slow Failures	0	0	0	0	0	0	0	0	
# of Fast Failures	0	0	0	0	0	0	0	0	
Total Failures:	0	0	0	0	0	0	0	0	
Accept Level	0	0	0	0	1	1	1	1	
Reject Level	1	1	1	1	2	2	2	2	
Pass / Fail?	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	
If Failed - Remove By:	Exhaust								
Statistical Data:									
Mean (Average Proof)	-1.925	-0.925	-1.3	-1.65	-0.425	-0.8	-0.175	-0.975	
Median	-1.925	-0.925	-1.3	-1.65	-0.125	-1	-0.325	-1	
Standard Deviation	0.035355	0.883883	0.212132	0.070711	0.707612	1.072381	0.977241	0.653015	
Sample Variance	0.00125	0.78125	0.045	0.005	0.500714	1.15	0.955	0.426429	
Skewness	NA	NA	NA	NA	-0.270948	0.976292	-0.129193	1.85	
Minimum	-1.95	-1.55	-1.45	-1.7	-1.4	-2	-1.85	-1.95	
Maximum	-1.9	-0.3	-1.15	-1.6	0.6	1.25	1.3	-0.1	
Count	2	2	2	2	8	8	8	8	
Confidence Level(95.0%)	0.317655	7.941378	1.905931	0.63531	0.591578	0.896533	0.816994	0.545934	

* Control group in 10th year of service - maximum service period - all meters to be removed/tested. Sample size based on population was used to determine if group passed/failed in it's last year of service.

Year 2007 Meter Code 019 American AL 1400

Code & Year:	1997
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	0
-.4 to .4	0
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	2

Code & Year:	1998
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	0
-.4 to .4	1
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	2

Code & Year:	1999
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	1
-.4 to .4	0
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	2

Code & Year:	2000
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	0
-.4 to .4	0
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	2

Code & Year:	2001
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	1
-.4 to .4	4
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	8

Code & Year:	2002
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	3
-1.2 to -.4	2
-.4 to .4	2
.4 to 1.2	0
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	8

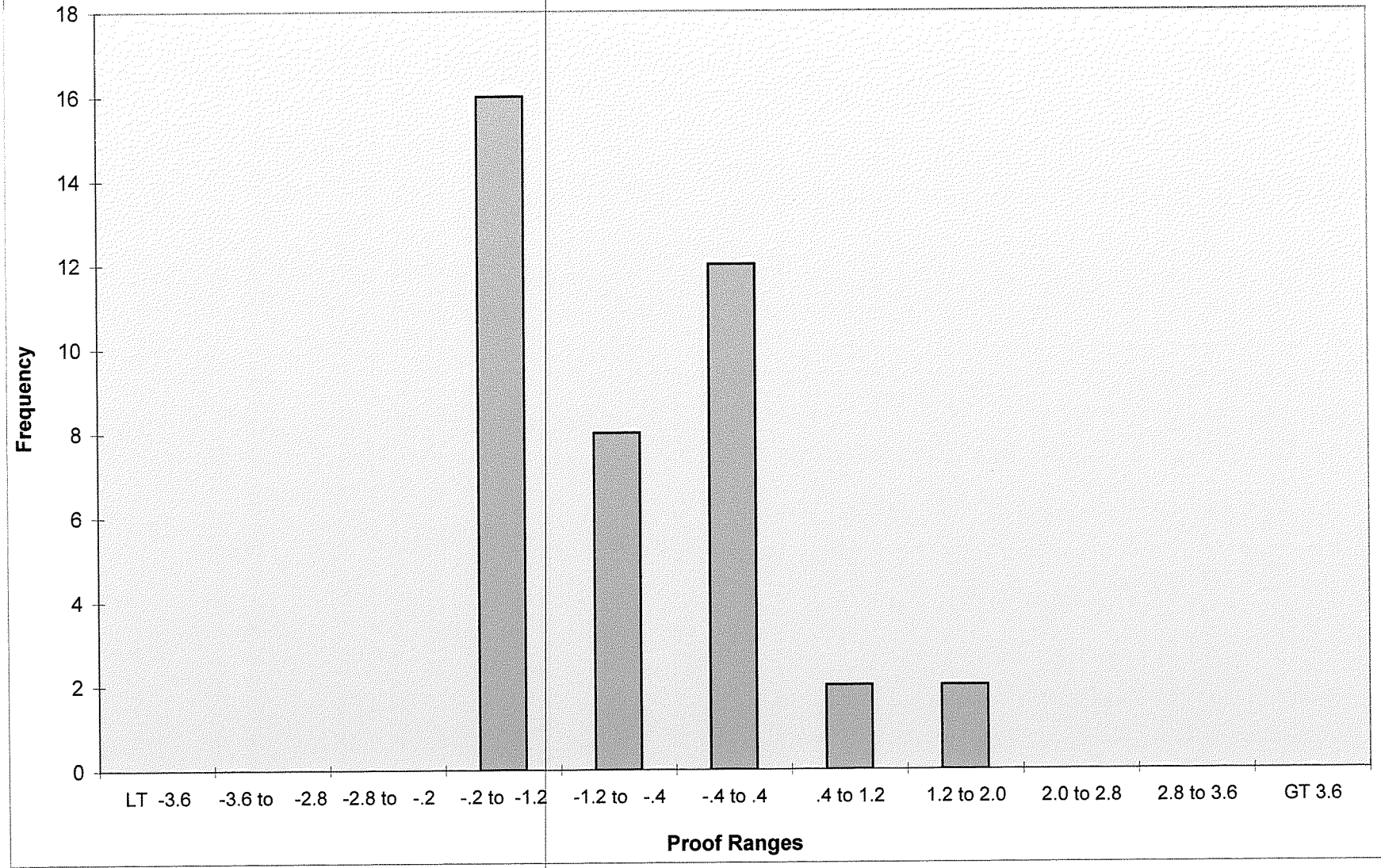
Code & Year:	2003
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	2
-.4 to .4	3
.4 to 1.2	1
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	8

Code & Year:	2005
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	4
-1.2 to -.4	2
-.4 to .4	2
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	8

Code & Year:	Total
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	16
-1.2 to -.4	8
-.4 to .4	12
.4 to 1.2	2
1.2 to 2.0	2
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	40

American AL1400 Distribution Profile - 019

(1997, 1998, 1999, 2000, 2001, 2002, 2003, 2005)



Rockwell R800 Year 2007

800 CFH

Code: 053

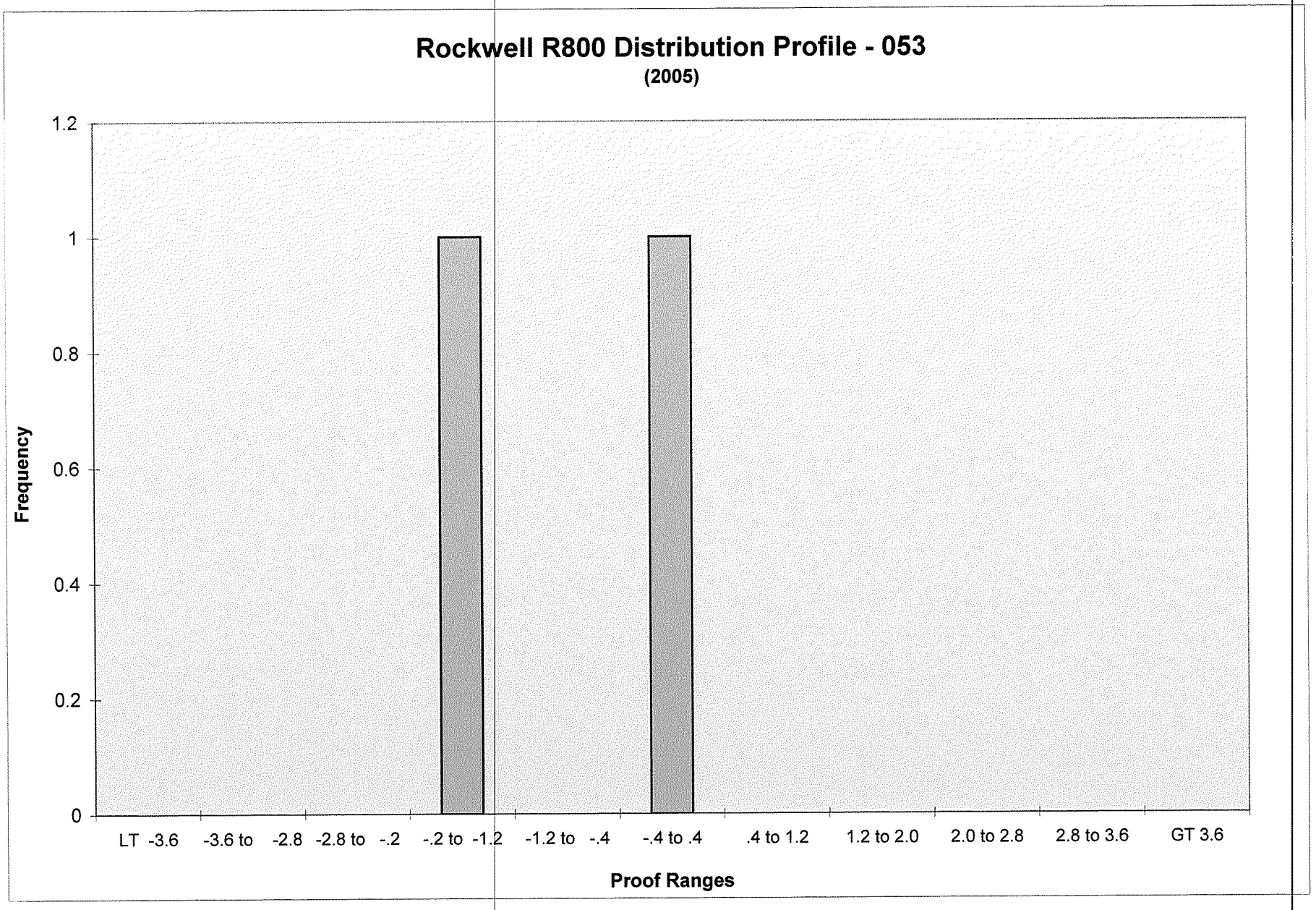
	Control Group-Installed Year								
	2005								
Sample Plan	Single								
Sample Size	2								
Original Population	3								
# of Slow Failures	0								
# of Fast Failures	0								
Total Failures:	0								
Accept Level	0								
Reject Level	1								
Pass / Fail?	Pass								
If Failed - Remove By:									
Statistical Data:									
Mean (Average Proof)	-0.825								
Median	-0.825								
Standard Deviation	1.166726								
Sample Variance	1.36125								
Skewness	NA								
Minimum	-1.65								
Maximum	0								
Count	2								
Confidence Level(95.0%)	10.48262								

Year 2007

Meter Code 053 Rockwell R800

Code & Year:	2005
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	0
-.4 to .4	1
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	2

Code & Year:	Total
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	0
-.4 to .4	1
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	2


Rockwell R800 Distribution Profile - 053
(2005)
Frequency
1.2
1
0.8
0.6
0.4
0.2
0
LT -3.6
-3.6 to -2.8
-2.8 to -.2
-.2 to -1.2
-1.2 to -.4
-.4 to .4
.4 to 1.2
1.2 to 2.0
2.0 to 2.8
2.8 to 3.6
GT 3.6
Proof Ranges

Rockwell #3 Emco	**Year 2007**								
1200 CFH	Control Group-Installed Year								
Code: 056	**1997**	**1999**	**2000**	**2001**	**2002**	2003	2005		
Sample Plan	Single	Single	Single	Single	Single	Single	Single		
Sample Size	8*	8	8	8	13	13	13		
Original Population	19	41	47	41	58	62	79		
# of Slow Failures	0	0	0	0	0	0	0		
# of Fast Failures	0	0	0	0	0	0	0		
Total Failures:	0	0	0	0	0	0	0		
Accept Level	1	1	1	1	2	2	2		
Reject Level	2	2	2	2	3	3	3		
Pass / Fail?	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**		
If Failed - Remove By:	Exhaust								
Statistical Data:									
Mean (Average Proof)	-0.3375	-1.05625	-0.825	-0.6875	-0.469231	-0.061538	0.173077		
Median	-0.325	-0.875	-0.8	-0.925	-0.4	0.05	0.4		
Standard Deviation	1.064274	0.468613	0.656288	0.895126	1.057225	0.951786	1.123353		
Sample Variance	1.132679	0.219598	0.430714	0.80125	1.117724	0.905897	1.261923		
Skewness	0.043359	-0.711789	0.152625	0.485979	0.589381	0.258735	-0.38631		
Minimum	-2	-1.85	-1.85	-1.8	-1.95	-1.7	-2		
Maximum	1.35	-0.55	0.3	0.65	1.9	1.9	1.95		
Count	8	8	8	8	13	13	13		
Confidence Level(95.0%)	0.889755	0.39177	0.548671	0.748344	0.638875	0.575159	0.678836		

* Control group in 10th year of service - maximum service period - all meters to be removed/tested. Sample size based on population was used to determine if group passed/failed in it's last year of service.

Year 2007 Meter Code 056 Rockwell #3 Emco

Code & Year:	1997
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	2
-.4 to .4	2
.4 to 1.2	1
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	8

Code & Year:	1999
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	3
-1.2 to -.4	5
-.4 to .4	0
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	8

Code & Year:	2000
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	5
-.4 to .4	1
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	8

Code & Year:	2001
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	3
-.4 to .4	1
.4 to 1.2	2
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	8

Code & Year:	2002
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	3
-1.2 to -.4	3
-.4 to .4	5
.4 to 1.2	1
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	13

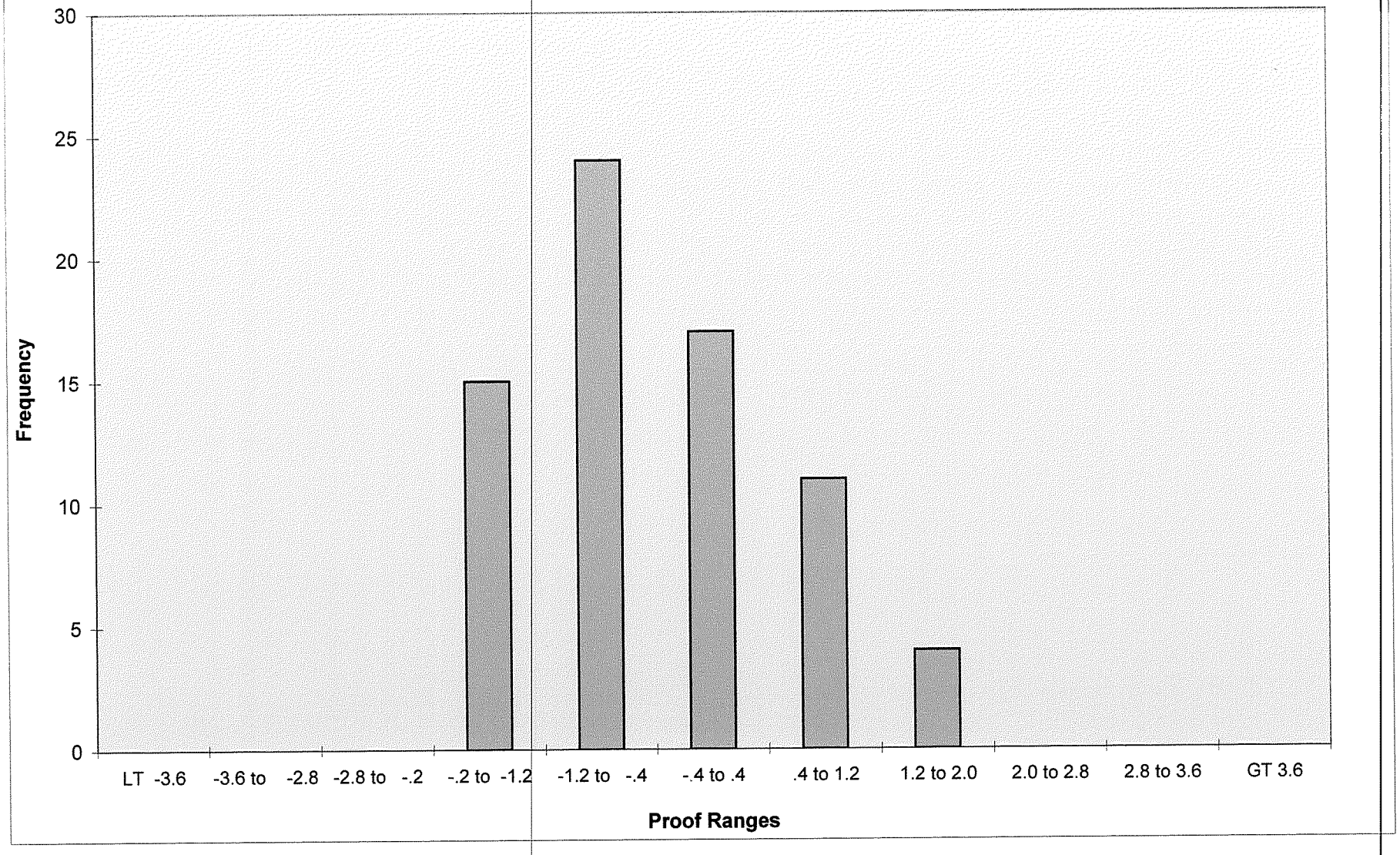
Code & Year:	2003
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	3
-.4 to .4	5
.4 to 1.2	2
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	13

Code & Year:	2005
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	3
-.4 to .4	3
.4 to 1.2	5
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	13

Code & Year:	Total
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	15
-1.2 to -.4	24
-.4 to .4	17
.4 to 1.2	11
1.2 to 2.0	4
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	71

Rockwell #3Emco Distribution Profile - 056

(1997, 1999, 2000, 2001, 2002, 2003, 2005)



Rockwell R750	**Year 2007**								
750 CFH	Control Group-Installed Year								
Code: 058	1997	1998	1999	2000	2001	2002	2003	2005	
Sample Plan	Single	Single	Single	Single	Single	Single	Single	Single	
Sample Size	20*	20	20	32	32	20	32	80	
Original Population	96	137	113	172	276	126	265	527	
# of Slow Failures	0	0	1	0	0	1	0	0	
# of Fast Failures	0	0	0	2	0	1	0	1	
Total Failures:	0	0	1	2	0	2	0	1	
Accept Level	3	3	3	5	5	3	5	10	
Reject Level	4	4	4	6	6	4	6	11	
Pass / Fail?	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	
If Failed - Remove By:	Exhaust								
Statistical Data:									
Mean (Average Proof)	-0.1725	-0.41	-0.28	0.18125	0.114063	-0.4125	0.265625	-0.0925	
Median	-0.15	-0.5	-0.1	0.075	0.1	-0.25	0.175	-0.15	
Standard Deviation	0.863511	0.631539	0.949571	1.003522	0.80093	1.025321	0.728613	0.704421	
Sample Variance	0.745651	0.398842	0.901684	1.007056	0.641489	1.051283	0.530877	0.496209	
Skewness	-0.531942	0.192841	-0.50751	1.556648	0.639288	0.103187	0.340786	2.313207	
Minimum	-1.95	-1.5	-2.1	-1.35	-1.25	-2.7	-1.05	-1.5	
Maximum	1	0.75	1.45	3.65	2	2.05	1.75	3.95	
Count	20	20	20	32	32	20	32	80	
Confidence Level(95.0%)	0.404136	0.29557	0.444413	0.361808	0.288766	0.479865	0.262693	0.156761	

* Control group in 10th year of service - maximum service period - all meters to be removed/tested. Sample size based on population was used to determine if group passed/failed in it's last year of service.

Year 2007 Meter Code 058 Rockwell R750

Code & Year:	1997
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	3
-1.2 to -.4	4
-.4 to .4	6
.4 to 1.2	7
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	20

Code & Year:	1998
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	9
-.4 to .4	6
.4 to 1.2	3
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	20

Code & Year:	1999
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	3
-1.2 to -.4	4
-.4 to .4	9
.4 to 1.2	2
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	20

Code & Year:	2000
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	10
-.4 to .4	10
.4 to 1.2	9
1.2 to 2.0	0
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	1
Total	32

Code & Year:	2001
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	7
-.4 to .4	15
.4 to 1.2	5
1.2 to 2.0	4
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year:	2002
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	3
-1.2 to -.4	5
-.4 to .4	9
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	0
Total	20

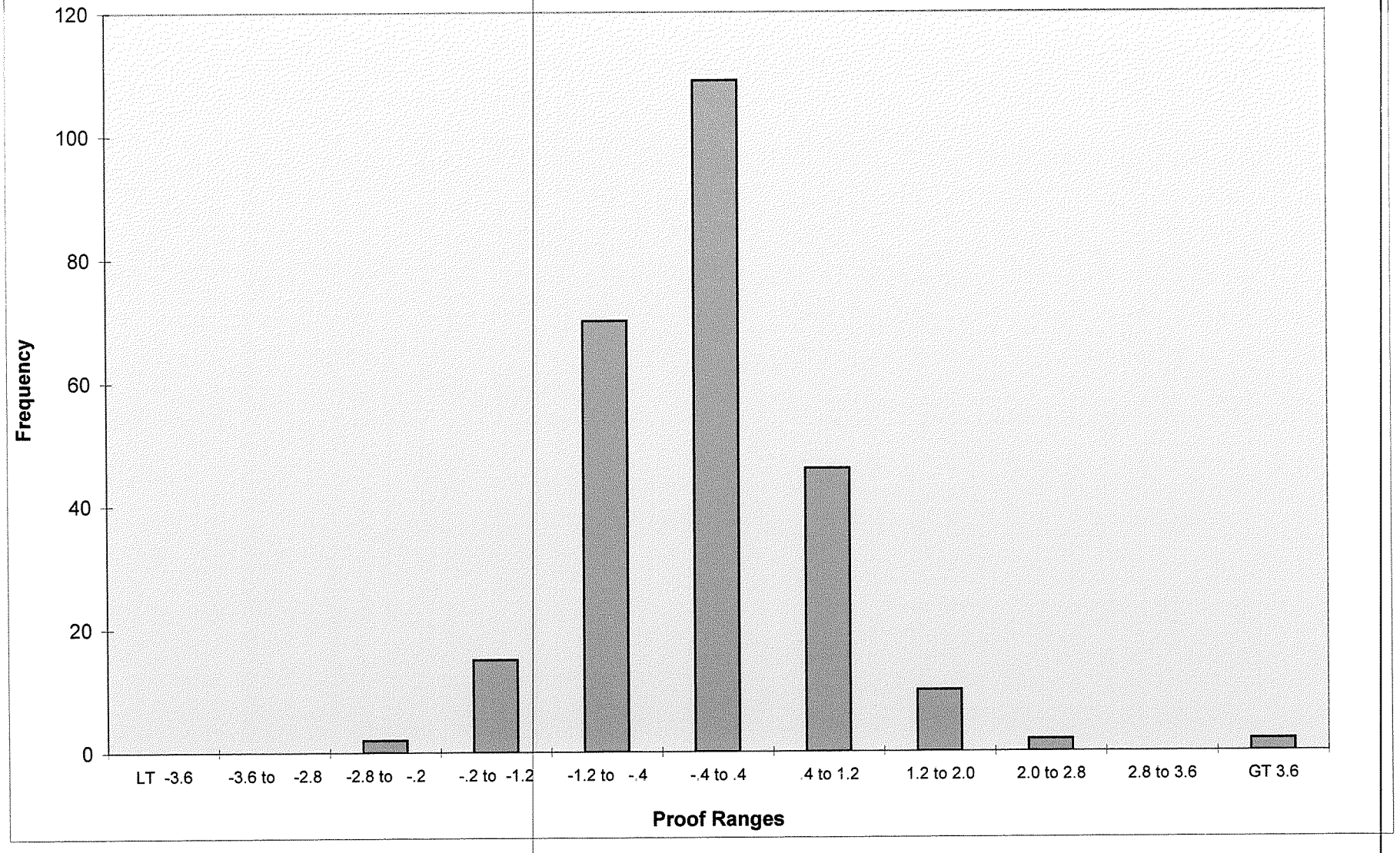
Code & Year:	2003
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	5
-.4 to .4	18
.4 to 1.2	4
1.2 to 2.0	5
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year:	2005
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	26
-.4 to .4	36
.4 to 1.2	15
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	1
Total	80

Code & Year:	Total
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	2
-.2 to -1.2	15
-1.2 to -.4	70
-.4 to .4	109
.4 to 1.2	46
1.2 to 2.0	10
2.0 to 2.8	2
2.8 to 3.6	0
GT 3.6	2
Total	256

Rockwell R750 Distribution Profile - 058

(1997, 1998, 1999, 2000, 2001, 2002, 2003, 2005)



American AL 800	Year 2007								
800 CFH	Control Group-Installed Year								
Code: 076	1997	1998	1999	2000	2001	2002	2003	2005	
Sample Plan	Single	Single	Single	Single	Single	Single	Single	Single	
Sample Size	2*	2	2	8	13	8	20	8	
Original Population	7	10	4	32	60	36	121	49	
# of Slow Failures	0	0	0	0	0	1	3	0	
# of Fast Failures	0	0	0	0	1	0	0	0	
Total Failures:	0	0	0	0	1	1	3	0	
Accept Level	0	0	0	1	2	1	3	1	
Reject Level	1	1	1	2	3	2	4	2	
Pass / Fail?	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	
If Failed - Remove By:	Exhaust								
Statistical Data:									
Mean (Average Proof)	0.3	-0.275	0.15	-0.50625	-0.369231	-0.89375	-0.6825	-0.5125	
Median	0.3	-0.275	0.15	-0.3	-0.6	-0.675	-0.5	-0.525	
Standard Deviation	0.070711	0.035355	0.424264	0.78031	1.010886	1.513614	0.861039	0.539014	
Sample Variance	0.005	0.00125	0.18	0.608884	1.021891	2.291027	0.741388	0.290536	
Skewness	NA	NA	NA	-1.052553	1.588121	-1.842283	-0.945538	0.076057	
Minimum	0.25	-0.3	-0.15	-2	-1.65	-4.3	-2.75	-1.45	
Maximum	0.35	-0.25	0.45	0.45	2.35	0.7	0.75	0.45	
Count	2	2	2	8	13	8	20	8	
Confidence Level(95.0%)	0.63531	0.317655	3.811861	0.652356	0.610872	1.265413	0.402979	0.450627	

* Control group in 10th year of service - maximum service period - all meters to be removed/tested. Sample size based on population was used to determine if group passed/failed in it's last year of service.

Year 2007 Meter Code 076 American AL800

Code & Year:	1997
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	0
-.4 to .4	2
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	2

Code & Year:	1998
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	0
-.4 to .4	2
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	2

Code & Year:	1999
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	0
-.4 to .4	1
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	2

Code & Year:	2000
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	0
-.4 to .4	5
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	8

Code & Year:	2001
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	6
-.4 to .4	4
.4 to 1.2	0
1.2 to 2.0	0
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	0
Total	13

Code & Year:	2002
Data Range	Number
LT -3.6	1
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	4
-.4 to .4	1
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	8

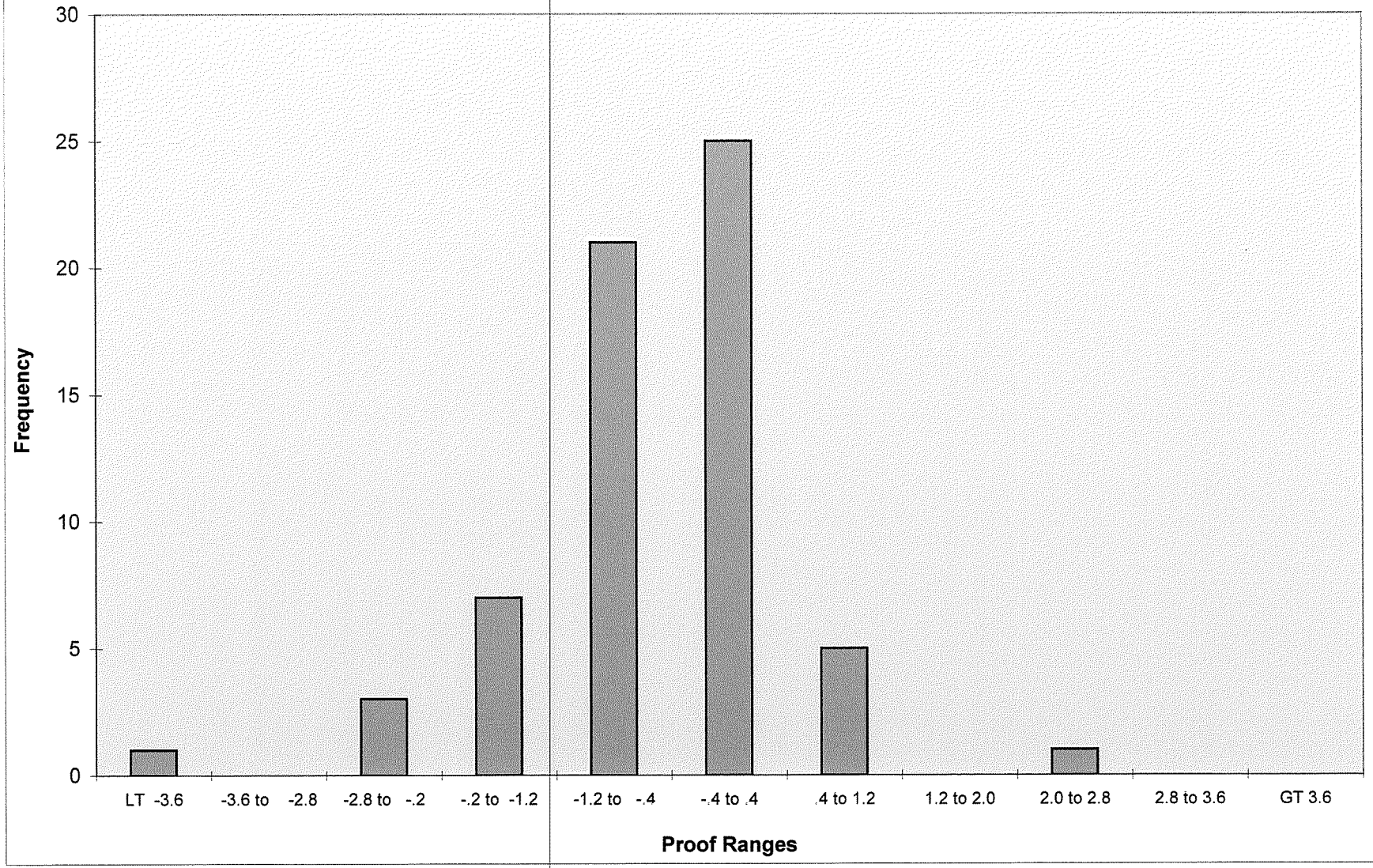
Code & Year:	2003
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	3
-.2 to -1.2	1
-1.2 to -.4	8
-.4 to .4	7
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	20

Code & Year:	2005
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	3
-.4 to .4	3
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	8

Code & Year:	Totals
Data Range	Number
LT -3.6	1
-3.6 to -2.8	0
-2.8 to -.2	3
-.2 to -1.2	7
-1.2 to -.4	21
-.4 to .4	25
.4 to 1.2	5
1.2 to 2.0	0
2.0 to 2.8	1
2.8 to 3.6	0
GT 3.6	0
Total	63

American AL800 Distribution Profile - 076

(1997, 1998, 1999, 2000, 2001, 2002, 2003, 2005)



Rockwell #4 Emco	Year 2007								
2250 CFH	Control Group-Installed Year								
Code: 028	2002	2003	2004	2005					
Sample Plan	Single	Single	Single	Single					
Sample Size	13*	20	32	20					
Original Population	73	104	184	126					
# of Slow Failures	0	0	0	1					
# of Fast Failures	0	0	0	0					
Total Failures:	0	0	0	1					
Accept Level	2	3	5	3					
Reject Level	3	4	6	4					
Pass / Fail?	**Pass**	**Pass**	**Pass**	**Pass**					
If Failed - Remove By:	Exhaust								
Statistical Data:									
Mean (Average Proof)	-0.719231	-0.4275	-0.9625	-0.2975					
Median	-0.7	-0.675	-0.825	-0.275					
Standard Deviation	0.626012	0.988017	0.653105	1.113963					
Sample Variance	0.391891	0.976178	0.426546	1.240914					
Skewness	0.160186	0.430508	-0.313552	-0.801296					
Minimum	-1.65	-2	-2	-2.95					
Maximum	0.55	1.7	-0.1	1.45					
Count	13	20	20	20					
Confidence Level(95.0%)	0.378295	0.462406	0.305663	0.521351					

* Control group in 5th year of service - maximum service period - all meters to be removed/tested. Sample size based on population was used to dertermine if group passed/failed in it's last year of service.

Year 2007 Meter Code 028 Rockwell #4 Emco

Code & Year:	2002
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	3
-1.2 to -.4	8
-.4 to .4	1
.4 to 1.2	1
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	13

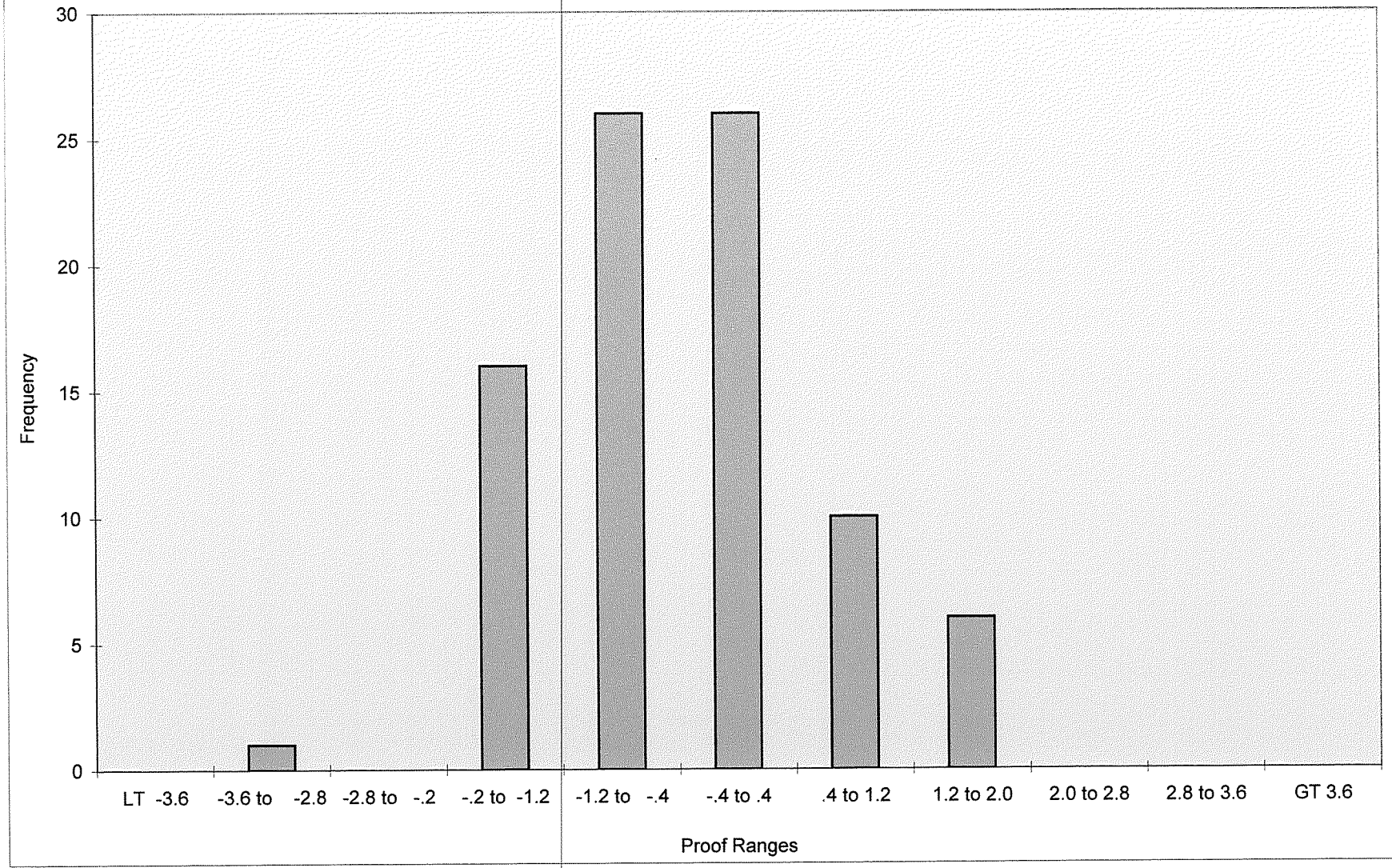
Code & Year:	2003
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	4
-1.2 to -.4	7
-.4 to .4	6
.4 to 1.2	2
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	20

Code & Year:	2004
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	6
-1.2 to -.4	8
-.4 to .4	11
.4 to 1.2	3
1.2 to 2.0	4
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	32

Code & Year:	2005
Data Range	Number
LT -3.6	0
-3.6 to -2.8	1
-2.8 to -.2	0
-.2 to -1.2	3
-1.2 to -.4	3
-.4 to .4	8
.4 to 1.2	4
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	20

Code & Year:	Total
Data Range	Number
LT -3.6	0
-3.6 to -2.8	1
-2.8 to -.2	0
-.2 to -1.2	16
-1.2 to -.4	26
-.4 to .4	26
.4 to 1.2	10
1.2 to 2.0	6
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	85

Rockwell #4Emco Distribution Profile - 028
(2002, 2003, 2004, 2005)



Rockwell 10Emco	Year 2007								
5000 CFH	Control Group-Installed Year								
Code: 061	2002	2003	2004	2005					
Sample Plan	Single	Single	Single	Single					
Sample Size	8*	8	8	13					
Original Population	18	24	36	70					
# of Slow Failures	0	0	0	1					
# of Fast Failures	0	0	0	0					
Total Failures:	0	0	0	1					
Accept Level	1	1	1	2					
Reject Level	2	2	2	3					
Pass / Fail?	**Pass**	**Pass**	**Pass**	**Pass**					
If Failed - Remove By:	Exhaust								
Statistical Data:									
Mean (Average Proof)	-0.2125	0.0875	-0.1375	-0.834615					
Median	-0.05	-0.25	-0.075	-0.9					
Standard Deviation	1.255203	1.348478	0.779079	0.950304					
Sample Variance	1.575536	1.818393	0.606964	0.903077					
Skewness	-0.28511	0.112973	-0.115442	1.54387					
Minimum	-2	-1.9	-1.1	-2.05					
Maximum	1.5	2	0.8	1.7					
Count	8	8	8	13					
Confidence Level(95.0%)	1.049376	1.127356	0.651326	0.574263					

* Control group in 5th year of service - maximum service period - all meters to be removed/tested. Sample size based on population was used to dertermine if group passed/failed in it's last year of service.

Year 2007

Meter Code 061 Rockwell 10M Emco

Code & Year:	2002
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	2
-1.2 to -.4	2
-.4 to .4	1
.4 to 1.2	2
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	8

Code & Year:	2003
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	1
-1.2 to -.4	2
-.4 to .4	2
.4 to 1.2	0
1.2 to 2.0	3
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	8

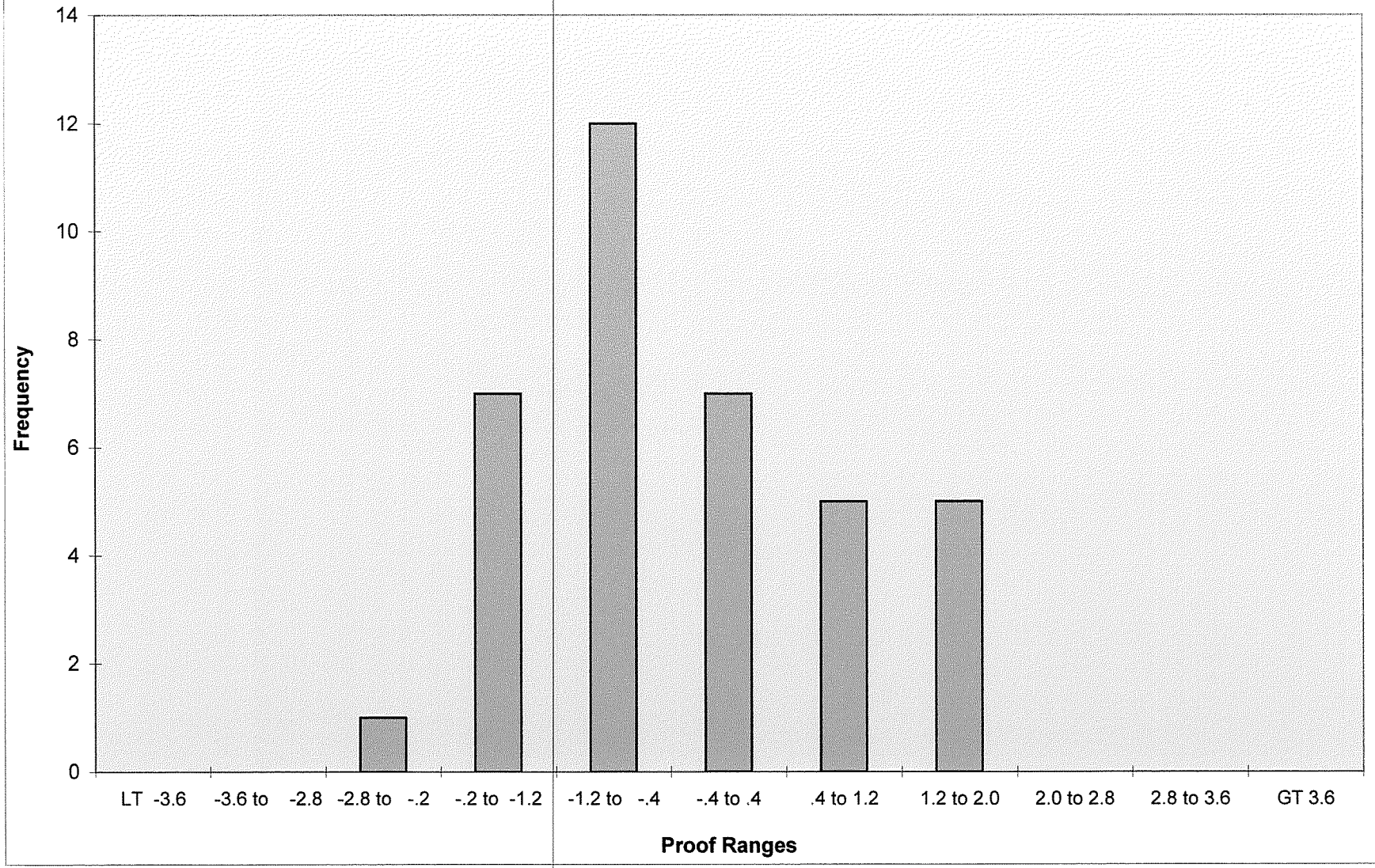
Code & Year:	2004
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	0
-.2 to -1.2	0
-1.2 to -.4	3
-.4 to .4	2
.4 to 1.2	3
1.2 to 2.0	0
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	8

Code & Year:	2005
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	4
-1.2 to -.4	5
-.4 to .4	2
.4 to 1.2	0
1.2 to 2.0	1
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	13

Code & Year:	Totals
Data Range	Number
LT -3.6	0
-3.6 to -2.8	0
-2.8 to -.2	1
-.2 to -1.2	7
-1.2 to -.4	12
-.4 to .4	7
.4 to 1.2	5
1.2 to 2.0	5
2.0 to 2.8	0
2.8 to 3.6	0
GT 3.6	0
Total	37

Rockwell 10M Emco Distribution Profile - 061

(2002, 2003, 2004, 2005)



Louisville Gas & Electric

Regulator Inspection and Replacement Program Report 2007

Year 2007 Regulator Inspection and Replacement Program

I. Progress Summary

During 2007, LG&E inspected or replaced a total of 22,869 gas pressure regulators as part of LG&E's regulator inspection and upgrade program. A total of 6,965 existing Schlumberger B42, National 496, or American 1213B gas pressure regulators remained in service. A total of 21,466 regulators were replaced with Schlumberger B42, National 496 and American 1213B regulators as part of LG&E's program to upgrade and standardize residential gas regulators. An additional 1,403 regulators were replaced as a result of either improper function of the regulator, damage/vandalism, service line replacement, or meter loop repairs. The distribution of the reasons for these regulator replacements is shown in Table 1 below.

Table 1: Year 2007 Regulator Change Reasons

Reason	Quantity
Regulator Replacement Program	21,466
Failed Lockup Test	24
Vent Leaking	108
Leak on Regulator	13
Routine Change During Meter Loop Repair	346
Could Not Adjust Pressure	12
Damage/Vandalism	60
Routine Change During Service Renewal	827
Test Site	12
Commercial / Security Bad	1
Total	**22,869**

For the time period of 2002 – 2007, a total of 75,777 regulator replacements have been made. This total represents 40% of the approximately 190,554 residential regulators that are expected to be replaced over the ten year period of the regulator replacement program.

II. Safety

As part of LG&E's regulator replacement activities, safety inspections were performed and "red-tags" were issued when deficiencies were found. The results of these safety inspections directly associated with LG&E's regulator replacement program are summarized in Table 2 below.

Table 2: Year 2007 Safety Inspection Results

Reason	Quantity	
Houseline Leak (includes lines to gas grills, pool heaters, appliance flexible hook-up lines, fireplace, etc.)	114	
Furnace Problem (internal leak, not burning correctly)	30	
Leak or Not Venting Properly (dryer, range, water heater)	27	
Flex Lines/Brass Connectors (not to code)	210	
Other Leaks	15	
Misc. (trees, bushes around meter, etc.)	7	
	Total	**403**

Additionally, Customer Surveillance Notices were issued to customers to correct outside deficiencies on their meter loop or exposed outside gas piping. The results of these safety inspections directly associated with LG&E's regulator replacement program are summarized in Table 3 below.

Table 3: Year 2007 Customer Surveillance Notices Issued

Reason	Quantity
Corrosion / Rust On Outside Meter Loop & Associated Piping	2,204
Gas Meter In Contact With Soil / Pavement	18
Asphalt or Concrete Paving in Contact With Piping Entering Ground	25
Gas Piping Not Properly Supported	961
Meter Not Protected From Vehicular Damage	154
Customer Built Over Service Line / Around Meter	9
Tree / Shrubbery Growing Inside / Against Meter Loop	24
Total	**3,395**